THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XI. ALBANY, N. Y., JUNE, 1863. No. 6.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

TERMS—FIFTY CENTS PER YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

THE CULTIVATOR has been published twenty-nine years. A NEW SERIES was commenced in 1853, and the ten volumes for 1853, 4, 5, 6, 7, 8, 9, 60, 61, and 62, can be furnished, bound and post paid, at $1.00 each—the set of 10 vols. sent per Express for $7.50.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two vols. yearly of 416 pages, at $2.00 per year, is issued by the same publishers.

The Cultivator & Country Gentleman.

TOP-DRESSING OF GRASS LANDS.

We had the pleasure last summer of visiting "Oak-Hill," the farm of R. S. ROGERS, Esq., near South Danvers, Massachusetts, where, among other items of especial interest, we examined a large Grass-field which had been the subject of a number of experiments in Top-dressing during three successive seasons. We deferred the publication of our notes until we should receive from Mr. R. the results of the crop of 1862. The report of that season Mr. R. kindly sent us several months since, and it has been awaiting a period of greater leisure for the notice which it so well deserves.

The question of the management of Grass lands, so as to maintain or increase their yield, is one of great importance and considerable difficulty. It is a comparatively slow and expensive process to break them up, and carry the land through a succession of other crops, previous to re-seeding. There are many, too, who think that the older a sod is the better; and yet, after a certain time, there are few instances in which some method of renovation does not seem necessary. If this can be successfully accomplished without disturbing the sod, there is a great point gained, not only in respect to the labor saved, but also in keeping up the regular production of grass or hay without the interruption of years of tillage.

Upon some farms it is indeed already the established system to keep up the meadows by the surface application of manures alone. "Ellerslie," the seat of the Hon. WM. KELLY, in Duchess County, affords a most admirable example of the kind. But it is too often the case among farmers generally, that the meadows and pastures are neglected until their yield is greatly diminished, and they become foul with all sorts of intruding weeds,—and, at last, re-seeding is the only remedy that will avail. While, with a fair chance, the useful grasses, clover and the like, will keep the ground mostly to themselves,—under the "slipshod" theory of management, they are cropped down from above and starved out from below, until Nature can only manifest her disposition to produce *something*, by substituting for them such a worthless growth as her stinted resources afford, and of a value about in proportion to the deserts of the recipient.

With the view of fairly testing the results of Top-dressing, and the respective merits of different applications for the purpose, Mr. ROGERS selected a field excellently suited for such a trial, very uniform in sward, and free from shade or other objection; and, in April, 1860, staked out five lots, each 250 feet in length and 45 in width, (thus embracing a fraction more than a quarter of an acre.) A top dressing for each lot was prepared as follows, the cost of each being as nearly as possible the same, ($10 each,) in order to arrive at the comparative profit obtained. Although no statement is given in Mr. ROGERS' reports, of the yield on the unmanured portion of the field, which would have been a very desirable item, his previous experience with the results of top-dressing satisfied him most convincingly that *it paid well;* and we could detect a marked difference ourselves in the appearance of the field according to the treatment it had received. Mr. ROGERS told us his first experiment in top-dressing, which we noted for publication, and which we perceive he has included in his last report. He had a ten acre lot which had not been broken up for a long series of years, and which began to manifest very plainly its need of some renovating application. He expended about $75 in the preparation of a compost for it; and a neighboring farmer in passing just before the application, called out to know, "Why he did not put that manure *under the grass?*" Mr. R. responded that turning it over would be very expensive, would require just as much manure and more labor, and that then he should not have a *good hay crop* under four years—two being necessary to get the land into tilth, and two more, after seeding, to reach a fair yield,—while, as it was, he meant to reap the fruits of his outlay without so long waiting. The anticipation was amply realized—the result of the compost, applied late in the fall, being a crop cut the next July of nineteen tons, and in September of six tons more—being a total of 25 tons from the 10 acres. The crop of the same field the year previous to the top-dressing, had been a total of *eight and one-half tons* in two cuttings!

But to go back to the experiment field of 1860—the five plots in which were laid off as above, and dressed as follows in the month of April:

No. 1—two cords of Manure, well rotted and mixed with one and one-half horse-cart loads of soil.

No. 2—120 bushels leached Wood Ashes.

No. 3—two cords green Cow Manure, the droppings of only a few days before.

Results of Top-Dressing on the Hay Crops of Three Years.

KIND OF MANURE.	Yield in 1860.			Yield in 1861.			Yield in 1862.			Aggregate crops for the three years.
	1st crop.	2d crop.	Total.	1st crop.	2d crop.	Total.	1st crop	2d crop.	Total.	
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs	lbs.	
No. 1—Compost,	790	380	1,170	850	240	1,090	700	265	965	3 225 pounds.
2—Leached ashes,	6:0	440	1,120	980	4.0	1,400	900	290	1,190	3,710
3—Green cow manure,	960	640	1,600	1,300	450	1,750	1,(50	300	1,250	4,700
4—Unleached ashes,	900	550	1,450	1,350	540	1,890	950	280	1,230	4,570
5—Peruvian guano,	1,300	370	1,670	730	140	870	450	160	550	3,090
	4,630	2,380	7,010	5,210	1,790	7 000	4,050	1,235	5,285	19,295 pounds.

No. 4—80 bushels unleached or dry Wood Ashes.

No. 5—255 lbs. pure Peruvian Guano, mixed with one and one-half horse-cart loads of brook mud.

The crops upon these plots for three consecutive years, *without any subsequent manuring whatever*, are given in the above table.

This table suggests some interesting deductions. The $10 worth of *Guano*, which leads off in the first crop of the first year, has exerted nearly or quite all its influence, and is "nowhere," afterwards. The $10 worth of *new cow manure*, which is but little behind the guano in 1860, is second in 1861 to unleached ashes, is best of all in 1862, and is again at the head in the aggregate of the three crops. The $10 worth of *unleached ashes* stands third in 1860, first in 1861, second in 1862, and second in the aggregate. The $10 worth of *compost* is fourth all the way through. The $10 worth of leached ashes is fifth in 1860, and rises to the third in 1861 and 1862, and is third also in the aggregate. Mr. Rogers remarks in his statement for 1861: "I am satisfied, from a close observation, and from practical results, that *green cow manure* is one of the best fertilizers, and the safest to be used for top-dressing of grass-sward." The appearance of the trial field after the harvest of 1860 had strengthened this opinion, for he wrote in the account of the experiment of that year, first published in February of 1861: "The second mowing of the guano lot disappointed me, and its short-comings on the second crop almost conclusively proved that it had lost much of its fertilizing properties in the production of the first crop of grass. It would not surprise me, on the return of the next season, *to find the green cow manure lot superior and more reliable than either of the other fertilizers* as a general dressing."

We subjoin a calculation showing the *average rate per acre* of the crops produced for each of the three years:

			Hay per Acre per Year.
Green Cow Manure averaged,			6.067 pounds.
Unleached Ashes	do.		5,960 do.
Leached do.	do.		4,789 do.
Composted Manure	do.		4.163 do.
Guano	do.		3.989 do.

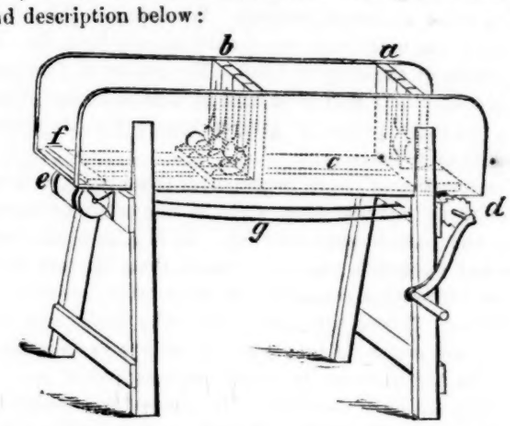
The average hay crop for three years after the application of the guano top-dressing, was thus about *two tons* per acre per year, while the average crop for three years after the application of green cow manure was a fraction over *three tons*. We find that the average crop of the whole five plots (1.291 acres) was at the rate of two tons and a half (4,981 lbs.) per acre per year.

Mr. Rogers justly observes: "The farmer of small means is often induced to worry along with an old and worn-out sward, whereas had he taken it in time, and used upon it but a small portion of his manure, he would have been incalculably remunerated on seeing a large crop of hay for his reward. I hope it will not be taken amiss when I say farmers must drop some of their old fashioned notions of tilling the ground in this age of improvement, and strike out some new mode of production, where labor and expense can be spared, in making two blades of grass grow where only one was grown before."

We simply add in conclusion that our readers may possibly recall the account of our visit, in 1859, at the farm of Thomas Horsfall, Esq., in Yorkshire, England, (Co. Gent., Sept 6, 1860,) where results so remarkable are obtained in the production of grass, and where the sole dressing in use on one field was the *fresh cow manure* from the pits under the stables. The field to which this manure was applied, yielded, so far as we could judge, quite as well as the other field, which was irrigated with sewage water.

GEDDES' WOOL PRESS.

We have several times on former occasions referred to the Wool Press used by Mr. James Geddes on his farm near Syracuse. Taking, as the basis of his contrivance, a rude affair occasionally employed before for the purpose, Mr. G. added one improvement and another, suggested by experience, until the machine in its present form may be fairly considered of his invention. We give a drawing and description below:



Geddes' Wool Press consists of a substantial and firmly made box supported on legs of convenient height; the length of the box three feet, and its width and depth one foot. One end or head of this box (*a*) is fixed, and strongly braced by a sort of iron bracket made for the purpose; the other or movable head (*b*), has a horizontal support to which it is also firmly braced, and slides from the cleet nailed at *f* up to within any requisite distance of the other head, *a*. Through both the heads there are three perpendicular slits which render so many braces essential to their strength, and through which the strings are extended for the tying of the fleece. In operation, these strings having been put in place, the fleece is folded to go into the box, but not rolled; the crank, turned by hand and prevented by a ratchet from springing back,

moves the roller at *d*, which, by means of the strap shown at *c*, pulls up the flollower *b*—the strings are secured; the catch lifted and crank reversed, when the straps at *g* draw back the follower, and the fleece is released in perfect shape.

A just degree of importance is perhaps not generally attached to the tying up of fleeces in a workmanlike manner. Indeed without the aid of a press, the task is by no means easy. The buyer of wool is expecting to see the fleeces in good form, and properly tied with just the necessary amount of twine to hold them in shape. When he sees things right in this particular, he assumes in his mind that the grower understands his business all the way through. And however clean and good the wool may really be, if it is tied up in a slovenly manner, the buyer, however good a judge he may be, will receive the mental impression that the grower does not understand his business, and that caution is necessary in offering a price.

The use of this press is a saving of time and labor, as well as advantageous to the appearance of the fleece—which, when it is released from the pressure it has undergone, expands sufficiently to conceal the strings that fasten it, and only shows the clean interior surface of the wool. It is in an almost cubical form, and this, as well as its tighter compression, enables it to be packed to better advantage.

We have given this extended notice to Mr. GEDDES' invention, for the reason that numerous requests for a full description of it have come to hand since it was alluded to at the time of the State Society's Annual Meeting. As it is not patented, and Mr. G. has no personal ends whatever to subserve in bringing it to the notice of the public, we add that in manufacturing several machines for the use of himself and friends, he had the castings and stuff prepared for a considerable number beyond their immediate wants, which will be sold at what is considered a fair remuneration for the actual material and mechanical labor required in their construction. They are not made *cheaply*, since it has been proved that great strength and good workmanship are absolute essentials in their satisfactory operation, and there would probably be an advantage in obtaining one made under Mr. G.'s own eye more than counterbalancing the cost of transportation even for a long distance. Mr. G. may be addressed at Fairmount, Onondaga Co., N. Y.

Breeding and Management of Sheep.

In order to the formation of a good flock of sheep, it is, in the first place, essential in the selection of your breeding ewes, to reject all under two years old; also such as from age have defective teeth. Yearling ewes which have lambs the spring they become two years old, usually make poor nurses, in consequence of not having a sufficient supply of milk to give their lambs a fair and full physical development; and all my observation goes to show that lambs thus raised make a miserable stock of of sheep, and it is from the same reason that old ewes should be rejected as breeders, for they too are deficient in the amount of nutriment required for the sustenance of their lambs. Most sheep-raisers are anxious to raise all the lambs they can; hence with a view to this end, they will breed from the old and young. When this is the case, I have invariably observed that much trouble and ultimate disappointment followed. Many lambs raised from such sheep will dwindle and die in August and September, and those that survive the first winter, make at best very defective stock.

If the object of the sheep-raiser is to cultivate fine wool, he should select bucks that are evenly fine all over, and thick set, and as great length as can be obtained consistent with compact fleece; great length of staple and compactness are not usually found together.

Two vigorous bucks, if well fed, will answer for one hundred ewes. The time for putting the bucks to the ewes may vary according to the convenience of the sheep-raiser, and the latitude of their location. With conveniences for the protection of lambs, the middle of April is a suitable time for the lambs to come. It is desirable to have the lambs come as near together as possible. With a view to this end, the ewes should be in high condition when the bucks are put to them. In adjusting the size of the flock to the pastures on which they are to range, it must be borne in mind that the smaller the flock the better the lambs will do. Pasture lands should never be so heavily stocked as to have the grass shaved to the bare ground. When there is a generous amount of feed left, the roots of the grass are protected from the action of the sun and frost.

In all sections of our country north of latitude forty, nice, luxuriant blue grass pastures can be had, and if properly managed in open winters, will contribute largely towards sustaining sheep. Lambs should be weaned by the middle of August. I have found a clover field the best for this purpose; with a little management they can be made to eat oats, and nothing will make them grow faster. At all seasons it is more or less essential that sheep should be classified, but indispensibly so in the winter. Hay, which should constitute the principal food for sheep, ought to be cut from the last of June up to the middle of July, and saved with all possible care, avoiding both rains and dews, and stirred to a degree that it will not heat in the stack or mow, as the case may be. Lambs fed with what good hay they will eat, together with one-half bushel of corn or a bushel of oats to the hundred, with water convenient, will be sufficient to keep them in good growing order. A lack of convenient water is among the greatest errors of sheep-raisers. The most abundant supply of food, as above directed, together with shelter, is essential to bring fine lambs at the age of one year, and the same tender care is necessary to carry them through the second winter to mature them to perfect stock. More sheep die from diseases contracted by bad and insufficient food and the want of shelter, the two first years of their existence, than from all other causes combined. When sheep are properly divided, have an abundant supply of suitable food and water, and good shelter in winter, hospitals and medicine chest can be dispensed with.

Breeding ewes should be kept in good condition at all times. The first inducement for this is the increased quantity of wool over what they would have with *moderate* keeping, and you may superadd a lamb to each ewe, or nearly so. My practice is to break up sod ground for corn, the succeeding spring I sow oats, followed by a wheat crop; a sufficient amount of timothy seed is sown at the time the wheat is harrowed; the following spring, about the 20th of April, I sow clover seed. By the above course of farming I have fresh meadow every season; and it is a fact worthy of especial notice, that new meadows do not suffer from drouth like old ones. The farmer who makes it his principal business to raise sheep, should make it a prime object to have an abundance of good hay, that will supersede the necessity of the sheep-killing system of feeding straw.

Some recommend cutting the hay which is fed to sheep. This I consider labor lost, inasmuch as the digestive organs of sheep are more complete than in most animals. There is nothing more important in sheepology, than in having them in high condition at the commencement of the winter. If your sheep are poor the first of December, they will be likely to remain so all winter, unless very great pains is taken to improve their condition by high feeding. Buck lambs are more tender and difficult

to raise than wethers, and the latter more than ewes. Nice attention to weaning and early feeding with grain in the fall, together with abundant feeding through the winter, will overcome the evils which they are liable to if neglected.

I noticed recently in the COUNTRY GENTLEMAN, that information was asked on the subject of confining sheep to their yards in the winter. This winter finished up fifty years that I have kept sheep; through all of this time it has been my practice to allow the sheep to have range of the pastures in pleasant weather, and from it I think much benefit has been derived in the economy of feed, and health to the stock. The failure of others to see this matter in the light that I do, is perhaps owing to one of the following reasons. Either their pastures are not of the right kind, or else not in a right condition. Blue grass pastures afford desirable locations for sheep; it not only pleases their palate, but gives them substantial nutriment. The effects of frost is very different on blue grass to what it is on other grasses; the injury is very slight; were it not so, the sheep would not be so eager to eat it, and then would like their usual amount of hay.

Elm Grove, Ohio Co., West Virginia. NATH'L P. ATKINSON.

Maxims in Relation to the Use of Plaster.

MESSRS. EDITORS—It is truly marvelous that so little should be definitely known concerning the fertilizing effects of an article used so generally and so constantly for more than sixty years. Such ignorance is certainly humiliating to our farmers as a class. This should not be so, and need not be so.

When gypsum was introduced, its good effects were so manifest that every farmer rushed into its use at all times and under all circumstances. In the progress of time it was sometimes found to have no effect at all. Farmers observing this, instead of instituting proper inquiries into its laws, declined using it, and some abandoned its use altogether. Now all this was wrong, and betrayed a careless, shiftless disposition.

For fifty years, save one, I have used gypsum on my small farm, and I have studiously watched its results. Sowing plaster is a laborious process. I never belonged to that class of people who believe labor to be a blessing, except as it administers to our necessities or enjoyments. God imposed labor on our first parents as a punishment for their sin, and I never felt disposed to question his judgment or its power to produce repentance, in my case at any rate.

I have no doubt millions of dollars, and a vast amount of muscular power have been thrown away by sowing plaster; yet all this is attributable to sheer ignorance of its use. For my part I can freely say I sow it with as much assurance as I sow any grain or plant a hill of corn.

As for its *modus operandi*, or theory of its action, I presume I know as much about it as any other man, and that is just nothing at all. But from actual observation I have had conclusions forced upon me so clearly that I venture to style them *maxims*. These are:

1. The best time for sowing plaster is in May or early in June.

2. Gypsum produces its full effect on light, dry land of loam mixed with a small amount of sand. As the proportion of sand increases its effects diminish, till on pure sandy soil it has no effect. The same is true of argillaceous or clayey soils. The more clay and water in the land, the less will be the effect of plaster until, on low, wet and clayey land, all its effects cease.

3. Like grass or grain, a certain amount of rain is necessary to bring out its full beneficial effects; but these effects are more deterred by drouth than they are in grains.

4. Any land suitable for gypsum, whether wild or cultivated, seeded or unseeded, will always respond to the one first coat of plaster, and produce its full effects. The richer the land is, and the more highly manured and seeded, the greater will be the results.

5. After the effect of the first coat ceases, no subsequent coat of plaster will produce any effect whatever, although a dozen coats be sown, until the ground is again tilled and seeded. Hence sowing coat after coat as the summers roll by, on the same land, is all labor and money thrown away.

6. Plaster produces its most striking effect on clover, red and white. After the red has gone through its developments and died out, the white follows in the train of effects. On corn and buckwheat it has good effects. On timothy, and the grasses generally, it is useless. On wheat, rye and oats it is worthless. On potatoes it is of little or no use.

6. Two bushels sown on an acre will produce as much effect as a dozen, or any quantity. A half bushel will produce as good results on clover for one season as more, but its effects cease with the season.

7. To produce its full and lasting effect on corn, it should be sown broadcast betwen the rows, after the last plowing. It is then brought in contact with the roots which lie under the whole surface. The usual teaspoonful applied around the young stalks has a very short effect, and never adds one iota to the grain.

Jefferson Valley, April, 1863. JAS. FOUNTAIN.

FRUIT ROOM.

Over my wood-house, a full half-story, I ceiled inside of the rafters and studs, then put up studs and ceiled top and sides to within eight inches of the floor, leaving eight inches of clear space, which I filled with saw-dust. The north end is filled 16 inches thick, with double windows; the south end is two feet with two doors, so that one can be closed before opening the other. In the top there is a ventilator three inches square, constructed in this way: There is a wall of saw-dust on all sides, perfectly connected; under the floor joists it is also ceiled, thus making complete air spaces all around outside of the saw-dust. The temperature of the room is but little above freezing, and remains without marked variation all winter. Apples have kept remarkably well in it the past winter, retaining their flavor perfectly. I have no doubt after the saw-dust becomes perfectly dry, it will prove to be one of the best fruit preservatories that can be constructed, for the expense incurred. L.

Richmondville, Mich., April 3, 1863.

How to Prevent the Curculio from Destroying Plums.

A perfectly reliable man that lives in this vicinity, was telling me a few days since, how he manages to raise plums.

He says just as the trees are coming into full bloom he takes a ragged stone and bruises the bark well in the crotches of the trees, and leaves the stone there. That, he says, arrests the gum which will exude from the wounded place, and prevent its going to the fruit, thus cutting off what he supposes to be the food for the larva. He says he has tried it for many years, and never fails when the trees blossom, except when he neglects to bruise.

There are some sections where it is deemed impossible to raise plums. A gentleman in Detroit told me that there was no use to try them; that even the woods were alive with curculio.

My informer says, do not be afraid of hurting plum trees by bruising them; he says the more they are bruised the better they will bear.

Now, my friends, try some of your old lazy plum trees give them a regular trouncing and report results. L.

Richmondville, Mich.

What Should be the Average of Cheese per Cow?

Eds. Country Gent.—In your issue April 9th, your correspondent "D." calls attention to the Dairy article of Mr. Goodale, Secretary of the Maine State Board of Agriculture, and is rather "inclined to doubt the correctness of the Report." Let me say here, that I have carefully examined the article referred to in Mr. Goodale's report, and in my opinion, it is one of the very best papers on the subject of the dairy that has been recently written; it is in every respect a most thorough, lucid, and admirable article, and "certainly will do good."

For the benefit of D. and others, it may be well to say, that the Country Gentleman of March 19, page 185, did not quite give the exact language of Mr. Goodale, and hence your correspondent infers that Mr. G. states the average of Herkimer County Dairies to be 600 pounds per cow.

Turning to Mr. Goodale's report, page 78, he says: "When I was in Herkimer Co., N. Y., during the past season, some dairymen assured me that their herds of forty to fifty cows, averaged a yield of six hundred pounds of cheese each, without extra feeding, while at good pasture; that with extra feeding upwards of seven hundred, and in rare instances, eight hundred pounds to a cow had been realized. Others told me that the better half, or third, or quarter, of their cows produced 600 pounds each, &c., &c." It will be seen that this language conveys an entirely different meaning from that alluded to by D.

The quantity of cheese that can be averaged per cow, will depend on the goodness of the cows, the manner they have been wintered, their pasturage during summer, the skill in manufacturing cheese, together with other and various circumstances connected with the dairy. In this vicinity on Utica slate soil, it is no *extraordinary* feat to get an average of 600 pounds per cow, with good cows, *fair management*, and under the practice of sending cheese to market at 25 to 30 days old. The writer has accomplished it in his own dairy, and can point to others in his own immediate neighborhood who have repeatedly done the same, and without the use of grain too, except the usual spring feeding.

Mr. Fish of Winfield, Herkimer Co., is reported in Evans' Manual, page 102, as follows: "In 1844, his cows averaged 700 pounds, and in 1845, 775 pounds of first quality of cheese during the respective years." These statements we believe were furnished by him (Fish) for the New-York State Transactions. We have not the data at hand for getting at the average yield of cheese per cow in Herkimer and Oneida counties, and it is not proposed to question the statement of D. that it "is not 350 pounds to the cow," for there is much poor land, many poor cows, much bad management, and many unskillful dairymen, scattered over these counties. Probably the average yield is larger in the best dairy neighborhoods, and on the best dairy lands; but if it is not, then there is much need of "turning over a new leaf," and such articles as that of Mr. Goodale's are calculated to bring about a better result.

We have constantly urged upon the dairymen the selection of good cows, their careful treatment, that the milking be performed thoroughly, and that there be skillful manipulation in the manufacture of cheese. Whenever the dairyman finds that 350 pounds per cow is all that he is averaging from his herd, he may rely upon it that there is error somewhere in his dairy management, which he ought to ferret out and correct; for no dairyman should allow his average to sink below 500 pounds per cow, and he should strive constantly to have it reach 600, and even 700 pounds. Misstatements of course may do harm, but we cannot believe that harm is done in fixing upon a high instead of a low standard for the dairyman to reach, in the *quality* and *quantity* of his dairy products. And we hope every dairyman who may read this, will look higher than an average yield of 350 pounds per cow from his herd, for at those figures it is not a very paying business, "one year with another," on lands like those in this vicinity, whose market value is $100 or more per acre. X. A. Willard. *Little Falls, Herkimer Co.*

COST OF FENCING, &c.

Eds. Co. Gent.—A writer in your issue of March 12, upon "Fences, their Cost, &c.," opens a very important and interesting subject, which may be profitably extended.

The vast sum of $144,000,000, which he states to be the cost of fencing in New-York, is startling and astounding, and so enormous as to deter individuals from even an effect at reformation. And yet, if reform is effected at all, it can only be done by individual skill and economy.

With a view of placing upon record, and by bringing the subject more directly home to the readers of your excellent weekly journal. I take the liberty of sending you a plat and calculation of the amount of fencing and cost necessary to enclose and divide a well cultivated farm of about 250 acres, and which was prepared for me some years ago by one of the most experienced and reliable practical surveyors in the section of country in which I reside, and with a view to the very subject under discussion.

[The plat or map of the farm exhibits the size and shape of the lots into which this farm is divided, showing that there are eleven fields—eight of them containing from 24 to 31 acres each, two with about 14 acres, and one of 5 acres. The writer goes on to say:]

To enclose these lots requires 2,103 perches of fencing, or *six and one-half miles and* 23 *perches*. Worm fence, with the proper stretch, requires 2 pannels per perch—32 pannels of post and rail fence equal 20 perches, and about 33 pannels of trunnel fence equal 20 perches.

To the above data I add the following estimate of cost of the different kinds of fences, viz.:

4,206	pannels	worm or zig-zag fence, at 50 cents a pannel, ..	$2,106.00
3,369	do.	post and rail fence, at $1 per pannel, ...	3,369.00
3,475	do.	trunnel fence, at 50 cents per pannel, ...	1,737.50
2,103	perches	of stone fence, at $1.25 per perch, ...	2,628.00
2,103	do.	plank fence, at $1 per perch, ...	2,103.00

This estimate, of course, to be modified by the cost of material in the different sections of country to which it may be applied. For the stone fence I have only estimated the cost of erection, as the clearing of the land often compensates for the hauling to the line of fence.

The trunnel fence, with good stakes and riders, it will be seen, is decidedly the cheapest fence, and when well put up, of good materials, makes a safe and lasting enclosure. I have a line which has been up about twenty years, and has cost me nothing, except an occasional resetting of the stakes and adjustment of the riders. It also takes less space than the worm or zig zag fence.

It will also be seen that the cost of enclosing and dividing such a farm, according to the kind of fencing adopted, is a little over $2,000—say in round numbers $2,000—upon which the farmer loses the interest, $120, or in other words, has to pay himself an annual rent of $120 on account of fencing, first cost. To this it would be just to add a fair percentage for removal and repairs. If this be put at only 3 per cent., the farmer thus has to pay himself an annual rent, on account of fencing, of $180 per year.

The question then presents itself—how best, and in what manner can this annual rent be lessened? A reduction of one-third of this annual rent would in the aggregate be a great public blessing; one-half a still greater blessing, and its entire abolition perhaps enable the farmers of the country shortly to pay off, as they will in the end, either directly or indirectly, have to do, the enormous war debt of the nation.

A sad tale, Messrs. Editors, hangs over the location of this beautiful, well divided and well cultivated farm. Its fencing gone, its happy and contented labor scattered, and its substantial mansion, where plenty and hospitality were formerly dispensed with a generous hand—if standing, only remains to mark the spot from whence annually went forth the surplus productions of a productive soil to contribute to and swell the great aggregate of our country's wealth and resources—and for what?

A MARYLAND FARMER.

HORSE MANURE, PLASTER, &c.

MESSRS. EDITORS—A few days since I received the accompanying letter, with a request that I should answer the inquiries through the columns of the Co. GENT. I cheerfully comply with the wishes of the writer. The letter is dated

LOWELL, VT., Feb. 16, 1863.

TO LEVI BARTLETT—Sir: Will you do me the favor to give an article on horse manure and plaster, through the columns of the Co. GENT. First. I wish to know if it is not a great waste to throw out horse manure and let it dry up, and more so to have it thrown into a heap and have it heat and burn through, as it usually does in nine cases out of ten. When my horses stand for two or three days on the bedding that is well saturated with the manure and urine, it gives off a very strong, pungent odor. Now it seems to me, that it is of much consequence to retain the escaping gases, especially where much grain is fed. I have my horse manure spread in winter, so that it does not heat.

Secondly. Is there any way to improve the quality of plaster for manurial purposes by saturating it with urine, or leaching it with the same, and saving the liquid to use separately? In case a quantity of urine was leached through a cask of plaster, how would you use it? And on what crop?

I think the saving of the liquid portion of the manure of our farm stock is a matter of much importance to the farmer. I have been so impressed with its value as a fertilizer, that I have built a cow hovel with a cellar under it, and am so well pleased with it, that I shall cement the bottom and sides, and turn my kitchen slops into it the coming season. By answering the above questions, you will much oblige a brother farmer. JOS. C. PARMENTER.

REMARKS.—It must be a wasteful practice to throw out horse manure, and let it "dry up," or be drenched with rain or melting snows, and no good farmer will suffer such waste. It is a far better plan to mix it with the less fermentable manure of cattle. But if the owner of horses has no cattle, the manure of the horse-stable should be mixed with muck, loam or sand, and trodden by swine so compactly as to prevent heating. It is a great waste to throw the manure of horses into heaps, and suffer it to heat and fire-fang. In such a process, a large portion of the valuable gases are evolved and escape into the atmosphere, and are lost. Where the bedding used consists of straw, refuse hay, or sawdust, the tendency to overheating of the manure when thrown into a heap, or dropped into a cellar, is very great; and if no precautions are taken to guard against this heating process, the value of the manure is greatly lessened. By the admixture of absorbents, the urine may be saved, over-fermentation prevented, and the quantity much increased, and the quality of the original manure preserved.

Thousands of farmers now use partially dried swamp muck, mixing it daily with the fresh manure; this absorbs the urine, and prevents overheating, and they are satisfied that the expense of procuring the muck, &c., is a good investment. But then it is not every farmer that has muck on his farm; but he can profitably use something else for a substitute.

Harvey Dodge, Esq., of Sutton, Worcester Co., Mass., one of the best and most enterprising farmers of that county, makes great use of the subsoils from his ditches for composting, &c. He says, "no material equal to this subsoil can be used for the improvement of the surface soil. I have used the subsoil as an absorbsent in all my yards, and in my barn cellers for the last five years, not from *necessity*, but from choice. The value of the subsoil may be tested in the pig-pen, sink-drain, cow-yard, or stable. It shows itself possessed of five times the power of taking the ammonia that surface soil has."

Every farmer that has *surface soil*, has beneath it *subsoil*, and there can be but little doubt Mr. Dodge's example may be safely practiced in the use of many kinds of subsoil.

We also have high authority for saying, that sand may be profitably used for bedding for farm stock, and composting with manure. Mr. Chenery, of the "Highland Stock Farm," of Belmont, Mass., a prominent and well-known farmer, "claims to be the first man in Eastern Massachusetts that introduced the use of sand for bedding for his cattle. He has used it for six or seven years, at the rate of 100 ox cart loads a year." That farmer must be badly located who cannot obtain either muck, subsoil or sand, to use as bedding for his farm stock, and for absorbing the liquid portion of his manure.

In regard to Mr. P.'s inquiry respecting plaster and urine, we would say, that if plaster has a good effect upon his soil, we think the better way to use it will be to daily sprinkle some in his hovels, and let the plaster and urine go into the manure heap, if he has sufficient absorbents to take up the liquid portion of the manure. Urine, leached through a cask of plaster, if in a partially fermented state, might contain a small per centage of sulphate of ammonia as it came through, and perhaps there might be some in the plaster. If so, the urine and the plaster might be profitably applied to the wheat crop. But there is considerable labor attending this *leaching* business, without corresponding returns.

Warner, March, 1863. L. BARTLETT.

HIGH MANURING AND ROTATION

MESSRS. EDITORS—I am thinking a few suggestions upon high manuring and rotation of crops would not be uninteresting, to some of your readers at least. A radical change from slip-shod farming to thorough manuring and rotation, would renovate many a worn-out farm, (which gives small pay for the labor bestowed upon it,) and not only make the owners of such farms richer in real estate, but larger crops and more money will be the result. Grass should be the staple crop of the New-England farmer, for a large mow of hay fed out on the farm, will give a large quantity of manure, which every farmer requires to increase the productiveness of his farm and to secure to him a remuneration for his labor. The farmer who plants a large breadth of land with a small quantity of manure, is becoming poorer in respect to his land, which is becoming more sterile, and in regard to his pocket, for he gets small pay for his labor. By the practice of thorough manuring and judicious rotation of crops the farmer is sure to prosper if he is not improvident and extravagant. On the other hand ruin is almost sure to follow, and the farm to be covered with a mortgage, the redemption of which will be a hopeless affair. Why will not the farmers of the land awake to their interest in this matter? Why will they pursue a course which is detrimental to their pecuniary interests, and which gives the face of mother earth a dejected appearance? A good sward, with 12 or 15 large cart-loads of manure spread upon it and plowed in, will give a heavy crop of corn, provided there is a little fine manure put in the hill to give it an early start. The sward and manure together, will very much increase the fertility of the soil, and good crops for a number of years will be the result.

An increased production of crops causes an increased production of manure, which Mr. Josiah Quincy has said is the most profitable crop he raises.

Hon. Horace Greely, in an address at an Ag. Fair in Western New-York, said: "The poor man cannot afford to grow small crops, for the reason that he is not compensated for his labor, but the rich man can afford to do it, and if small crops must be grown the rich man should do it."

Farmers of the land, which will you choose, *Fertility* or *Sterility?* The one will make you prosperous and independent; the other will bring disappointment and ruin.

Deerfield, Mass. JAMES CHILDS.

ON HARROWING CLAY LANDS.

MESSRS. EDITORS—Much has been said, and far more written, on the subject of plowing, but I have never seen an article or heard a discussion on Harrowing. Yet I think harrowing requires as much science, or rather the use of as much common sense as does plowing. If harrowing is done at the right time, it often saves immense labor afterwards. Farmers on *stiff soils* ought to take their harrows to the field at the same time they take their plows, and harrow what is plowed as soon as it is in a proper state to pulverize. It will often happen that the land plowed in the forenoon should be harrowed in the afternoon. Once going over then may save rolling, cultivating, rolling again, and harrowing again, and then not be in as good a state to sow or plant as if only once harrowed immediately after plowing, or as soon after as to be in a state to pulverize properly.

I know that as good, if not better, corn can be raised on our clay soils, as on any other land in the State, if we only use the harrow at the right time; but if clay land is plowed in a *moist* state, and some of it, of course, must be plowed so, and then lies unharrowed until it dries, one may as well harrow on a paved street, and nothing can grow.

Farmers who have never worked clay soils may think what I write is all nonsense, but farmers on clay soils, if they can be pursuaded to try harrowing about as soon as they have plowed, will find an immense saving of labor, besides much better crops. Farmers generally hereabouts are in the habit of plowing the whole field or fields for wheat, barley or oats, before they ever use the harrow. This is all wrong.

Another great mistake farmers commit is in using their harrows for years without having the teeth sharpened. On all stiff soils the teeth ought to be sharpened once a year.

I have for many years thought of writing an article on harrowing, but better late than never, and here it is at last. JOHN JOHNSTON. *Near Geneva, April* 26, 1863.

P. S.—We have fine growing weather at last. Fields green, but those that are liberally manured by far the greenest. J. J.

Couch or Quack Grass and Potatoes.

MESSRS. EDITORS—I send you my account of clearing one acre of ground of quack grass, which had become so bad with it as to nearly destroy all growing crops on it. It was plowed in the fall of 1861, and cross-plowed last spring. The crop of 1861 was peas and oats—very poor. My spring plowing was done early in May, about the 10th. It was dragged and furrows struck with a plow one way, three feet apart, and marked the other with three feet marker. I then had one man and woman 2¾ days each, to clean out the quack at the intersections of the marks before planting, which cost me $3.44. I then planted as usual with cut potatoes, with about a spoonful of plaster on each hill, my principal object being to clear the ground of quack and to know the cost. At hoeing time I plowed twice through each row, casting the earth from the hills with a single plow. I then set my men to work, and showed and instructed them to hoe for quack and take care of the potatoes, and shake out by hand every root of quack they could find, and take time to do it as clean as possible. The roots were laid in heaps, which were carried off the field in baskets, and composted in a manure pile. I had six or seven wagon boxes full. Potato hooks were used instead of hoes.

I have been very particular in keeping the time of the first hoeing and removing all the quack. I did so merely for my own knowledge, and should not have troubled you with it, had it not been for what I consider an extraordinary result of good clean and mellow cultivation.

Cost for cleaning out the hills before planting,	$3.44
16¼ days hoeing and removing quack, at 75c.,	12.19
	$15.63
Deduct say $2.25 for ordinary hoeing,	2.25
Extra cost for quack,	$13.38

I planted four kinds of potatoes in 4,840 hills—just one acre. Two bushels and scant half of Garnet Chili,

	Bushels.
Which yielded one bushel to each 15½ hills,	59
Peach Blows, 17 hills to the bushel,	108
Mercers,	30
Prince Albert,	15
Door-yard,	6
	218

I have now been farming twelve years, and this is the best yield and the largest potatoes that I have ever grown. I had one Chili potato that weighed three and a quarter pounds when brought from the field; Peach Blows of two pounds each, and am fully satisfied that I have a yield of one-third more than I would have had by ordinary cultivation, which will more than doubly pay for taking out my quack. My Garnet Chili's were full two weeks earlier than my Peach Blows. The quality of my Chili's I think as good as the Peach Blows.

The soil, a gravelly loam, has had no manure in eight years past. AL. VAN VOAST. *Pond Grove, Schenectay.*

CONFINING SHEEP IN WINTER.

MESSRS. EDITORS—I noticed an inquiry in your March No. of THE CULTIVATOR—"Do sheep do better confined to their yards when the ground is bare in winter, or to be allowed a good range of pasture with what hay they will eat, and a small allowance of grain?"

As E. F. wished to have some wool-growers give their experience on this point, I will write a few lines. In the first place, I am aware that sheep like to get to the ground, and will spend most of their time grazing if allowed to run at large. But as far as my experience has been it only injures them. I never let my sheep get to the ground from the time I take them up for winter quarters, until there is good feed in the spring.

I know of some that will turn their sheep out as soon as the grass begins to start in the spring. This suits the sheep very well, for they love to get a green bite, but in getting this they lose their appetite for hay, and what is carried out to them they will run over and eat a little of the best, and then off they go for the green trashy stuff which only tends to weaken them. Consequently they will shrink and grow poor, being exposed to the April storms. They hardly ever come up to be sheltered as long as they can find a dry knoll to sleep on.

After the grass gets up so they can get good living, they begin to thrive, and what is the consequence? The consequence is when shearing comes their wool can be more easily pulled than sheared.

Now I keep my sheep in tight yards (well littered,) where they can go under sheds. In stormy weather I shut them under the sheds until after the storm, and keep them dry as possible. When the grass is large enough for them to get a good living (without hay or grain,) I then turn them out, and when shearing comes I have to shear the wool from my sheep instead of pulling it. I know of one farmer that has let his sheep graze all this winter; as he had a large run for them he thought they would get a living, and they have and look well to all outward appearance. But Mr. Editor, I fear they will next spring remind him of an owl. You know the owl looks plump and fat as long as his feathers are on. But pick them off and you find a small carcass. And when he comes to shear he will learn the folly of letting sheep take care of themselves. They will remind him of the plate in the Almanac you sent us with THE CULTIVATOR, showing the difference in sheep that are wintered under cover and without cover. So keep your sheep from the ground in winter. C. A. J. *Livonia.*

Principles Involved in the Application of Artificial Manures.

During the last few months, a large number of persons have addressed letters to us here, asking numerous questions in regard to the value and proper use of artificial manures. With your consent, I would make some of these questions the subject of a few practical remarks in your paper. And in order to abbreviate as much as possible, the questions will be answered without asking them, leaving the reader to infer the question from the nature of the answer.

I. The principal resource of the farmer in maintaining the fertility of the soil, is to be found in a *proper husbanding* of all resources for the prouction of stable manure—all vegetable matter not sold off the farm should find its way through a manure yard (into which no water comes except that falling directly from the clouds.) And except in very peculiar circumstances no artificial manure should be purchased until this is done, and found to yield an insufficient quantity of plant food to the crops the farmer would raise.

II. All land not recently limed will be benefited by liming, but land under constant cultivation cannot be maintained in a state of fertility by the use of lime alone; on the other hand, lime may be entirely dispensed with in agricultural practice, by purchasing proper artificial manures. Which to purchase, *lime* or *artificial manures*, must depend upon the cost of each. If lime can be had for five cents per bushel delivered in the field, as it can be had in our valley here, it never can be entirely supplanted with artificial manures; it should be used in quantities of from 75 to 150 bushels per acre, applied in the autumn and upon top of the soil, to be covered by winter snows and washed down into the soil during the winter.

If on the other hand, lime costs about 20 cts. per bushel, it should be used much more sparingly, and artificial manures should be used instead. If it costs much over 20 cts. per bushel, it should be dispensed with altogether. From 20 to 35 bushels of lime per acre, put on a short time before putting in a crop, would be sufficient where it costs so much.

III. Plaster of Paris, salt, or any other manurial substance may be used, if on trial it gives a good result when first tried; such substances never "poison" or injure the land. It is the crops raised that injure the soil, by exhausting it just as grain sold from the granary lessens the total value of grain left in it.

IV. Green manuring improves the value of land, and may keep it up for a long time, but cannot alone maintain its fertility always. Whether or not it should be resorted to depends upon the value of land, labor, artificial and natural manures, and of the produce of the land.

V. Artificial Manures. Agricultural science has long proclaimed, and agriculture is fast coming to admit, that in order to make up for the immense quantity of manurial elements sold off the farm in meat and grain, there must be a restitution from sources external to the farm, and hence the necessity for artificial manures, as guanos, ammonia salts, phosphates, &c.

VI. The only correct and practical method of ascertaining the value of an artificial manure, is by chemical analysis. The recommendations of those who have used a bag full, or a dollar's worth, for a single year, are of no value whatever. Even prolonged experiment upon a large scale in any department of nature, is very unsafe as a source of correct information, when not carried out with the aid of scientific knowledge. The absurd idea of the potent influence of the moon upon the various operations of agriculture, which, in times past, has been entertained by our good, honest, well-meaning Pennsylvania German farmers, has time and again been tested to their full satisfaction by them. The idea is the *child* and the *fit representative* of agricultural experimentation in unscientific hands.

VII. It will afford the farmer no practical benefit to get either his soil, or plant ashes, analysed; and if well done, it will cost from $20 to $50 for one analysis.

VIII. Raw bones afford phosphoric acid and nitrogen to the plant. Burned bones and Sombrero guano afford it phosphoric acid only. The phosphoric acid in Sombrero guano is not so easily dissolved as in bones, hence not quite so valuable, but if once dissolved by an acid, as in superphosphates, it is precisely identical for all purposes with that dissolved by acid from raw or burned bones. It is much more difficult to make a raw bone than a burned bone superphosphate, hence all the raw bone superphosphates I have seen are failures, and therefore it would be much better to purchase pure ground raw bones than such superphosphates. None of our Pennsylvania manufacturers have yet succeeded in getting raw bones ground as they should be either to use alone or to make superphosphates. A Boston firm recently sent us a bag full of very finely ground raw bones, a splendid article, but sold at $60 per ton.

IX. Prof. Mapes' notion that phosphoric acid, lime, &c., that has been in an organized being once, are better fitted to enter other organized beings than the same substances prepared direct from minerals, is an absurdity. I have never refuted it, because I never met an intelligent farmer who did not consider it absurd. Prof. Johnson of Yale College, has seen fit to dignify it with a sober refutation in a late number of the COUNTRY GENTLEMAN; those who wish to see so self-evident an absurdity refuted, can do so by referring to that article.

X. Ground raw bones are often terribly adulterated with salt, sulphate of soda, and other trash. We now have in our laboratory, a barrel of stuff bought for us in Philadelphia by a farmer, as pure ground raw bones, which is adulterated to half its weight with comparatively worthless matter.

Sulphate of ammonia and nitrate of soda, though excellent manures for wheat, are too costly for general use. Good Peruvian guano is a cheaper source of ammonia for plants, but this is also very expensive.

There is no source of potash at all generally *accessible* to the farmer, except in wood ashes. Care should be taken to preserve all wood ashes (stone coal ashes are worthless) and all soap suds, in order to bring the potash in them upon cultivated land.

XI. Bad manures can only be driven from the market by an increased scientific knowledge amongst farmers. Several methods might be adopted to aid ridding the market of them. Farmers might refuse to purchase without a legal guarantee as to chemical composition—or a state chemist might be appointed, to (among other duties) examine the different manures in the market and report —or an act of Legislature might be passed in each State, making it a penal offence to sell superphosphates, bone dust, &c., with less than a specified amount of certain elements they should contain.

The misfortune now is that farmers persist in purchasing trashy mixtures, the composition of which they know nothing about, in order to "try them," and they are tried in such manner as can lead to no correct conclusion as to their value. Thus the most conflicting results are obtained by different farmers; results often depending more upon the season, the peculiar method of cultivation, or the state of the soil, than upon any good or bad qualities of the manure. So long as this is done, the market will be filled with trashy manures, and they will render it more difficult to introduce good ones.

The above subjects afford themes for extended treatises rather than the desultory remarks devoted to them, but they will it is hoped, meet some of the questions proposed.

Agricultural College, Pa., April 24, 1863. E. PUGH.

HEDGE-TRAINING IN MISSOURI.

EDITORS COUNTRY GENTLEMAN—Please permit a new contributor to offer a few suggestions through the columns of the COUNTRY GENTLEMAN, in regard to the cultivation and training of the Osage Orange for hedges. During a residence and sojourn of eighteen months in the State of Missouri, I saw a system of training put in practice, which appeared new to your correspondent, and may be will prove so to many of your readers, yet it secures the desired end. The desideratum to be attained in the growth of live fences is a thick and impenetrable base.

We will not enter into detail as to the preparation of the hedge-row before planting, as no one who is at all conversant with good farming, and knowing what they want and how to secure it, will ever plant a hedge without first putting the ground in good condition to receive the seed or young plants.

Let the seed (if good) be planted where the hedge is to be, from six to eight inches apart in the row; or they may be planted in a convenient spot where they can be transplanted to the hedge-row without cutting back, as the first year's growth, a single upright shoot, is necessary in forming the base. If the seed are planted in the hedge-row, all spaces (if any occur) may be filled by plants.

Having the hedge filled with plants of one year's growth, provide a good thick pair of leather mittens to protect the hands from thorns, and then commence at one end by taking the tops in hand and bending them to the ground, at the same time giving them a twist and interlacing them at the base of those next adjoining, which are likewise bent and twisted like the first, and bound down to the ground by those following, which are also treated as the former ones, until all are twisted and lying on the ground like a huge rope.

The time of laying down may vary in different localities. In the more northern sections the fall is to be preferred, as the young plant will thus be protected from the effects of severe weather; but farther south the spring is equally as good, say any time before the buds start. The advantages of this system will, I trust, present themselves to the reader at once. Shoots are thrown out in every conceivable direction, and all of strong and healthy growth, being from eyes and buds, thus forming a dense impenetrable and perfect base, upon which a hedge, worthy of the name, may be erected at little expense thereafter, which shall give the owner perfect security against all intrusion from domestic animals, however breachy they may be.

Wherever I have seen the above method in practice, a good hedge is the sure reward of the proprietor. It is not uncommon to see in Missouri a base of four feet in thickness the first year, but in the Northern and Eastern states such growth cannot be looked for, yet wherever a hedge is practicable, the above method (in the mind of your correspondent) will prove successful, with whatever kind of plants it may be set.

Let me offer one more suggestion, especially to those who have a sort of skeleton hedge, which entirely fails to perform the part designed for it. Let it be cut entirely away close to the ground; the roots will send up shoots which may be treated as above, and prove equally successful as if set with fresh plants. SAMUEL AVERY.

Du Page Co., Ill., April 13, 1863.

COAL TAR FOR SEED CORN.

EDS. CO. GENT.—Lest the experience of Mr. CLIZBE, (p. 266,) should discourage the use of coal tar for seed corn, I will state that I have used it for the last ten years or more, with perfect success. It is probable that those who have been in the habit of using pitch tar, would use more than was necessary of the coal tar, as the merest coating is a sure preventive against birds and squirrels, and I doubt if gophers will attempt to eat a second kernel covered with it. I put the corn into a kettle of water, and allow it to heat slowly until it comes near to the boiling point, when I pour in a very small quantity of coal tar, and stir the whole until the corn is covered with the tar. A person unaccustomed to the use of it will be astonished at the rapidity with which the tar leaves the water, and spreads itself over the corn. I think one gill would cover a bushel, but I use about half a pint. My rule is to use such a quantity as will completely cover the corn, without causing the kernels to stick to each other when dry. And here let me remark that if only the requisite amount of tar is used, there will be no *necessity* for covering the corn with plaster for convenience of planting, provided it is spread out to dry; but if required for immediate use, I simply drain off the water and stir in plaster.

With the use of pitch tar I have noticed that birds would pull up several kernels each, before feeling satisfied to leave the field; but upon adopting the use of coal tar, I was pleased to find that their instincts were considerably sharpened, for after lighting down once or twice upon the field, and walking about awhile, they give it up altogether. P. B. TYLER. *West-Haven, Conn.*

CURE FOR RHEUMATISM.

I take the opportunity of returning my sincere thanks to you in behalf of my "better half," for a very simple receipt I discovered in my "CULTIVATOR" for 1861, which consisted in the use of Potato water for rheumatism. My wife suffered over four years with rheumatism in her shoulders, especially after doing the family washing, until I discovered this simple but most valuable remedy. The first night she used the Potato water rather lukewarm, and assured me of its benefits next morning, and that she hardly felt any pain in the shoulders, which encouraged us, and we renewed the application the following night before she retired, using the potato water as hot as she could bear it, and rub the shoulders as hard as she could, and the effect was that she never, since the last application, now about fourteen months, has had the slightest pain of rheumatism in her shoulders or any other part of her person.

Many persons in this country, especially miners, are afflicted with that malady, and I have requested many to try the remedy, but they regard the value of "Potato Water," in the same light as a great many do the "*Brandy and Salt*" cure, viz., drink the brandy and rub the afflicted part with the bottle. Then again both these remedies are so cheap they cannot be good. JACOB FRITZ.

Fort Walla Walla, W. T.

The following is the recipe referred to in the above:

"Bathe the parts affected with water in which potatoes have been boiled, as hot as can be borne just before going to bed; by the next morning the pain will be much relieved, if not removed. One application of this simple remedy has cured the most obstinate rheumatic pains."

WAYSIDE NOTES.

MESSRS. EDITORS—When in the midst of pursuits quite different from those of Agriculture, the welcome face of the COUNTRY GENTLEMAN makes its regular appearance, it seems as if common courtesy demanded that I should take my pen, and acknowledge my obligations for its many good teachings, so valuable to the community as well as to myself. Indeed, it is difficult to suppress the old half-editorial habit of contributing an occasional remark by way of criticism or approbation, upon the many interesting topics constantly under discussion in your columns. Possibly the fact that I returned last evening from my farm in Exeter, New-Hampshire, where I witnessed anew the beautiful operation of my experiments in tile-drainage, has assisted your paper, which I find on my table this morning, to awaken my old enthusiasm for agricultural progress.

And now, if you can find a little space for me, what better can we do with an hour of this wet morning, than to talk over socially some matters which interest your readers and ourselves.

A Word about Drainage.

The system of drainage with tiles as practiced by the English drainage engineers, is perhaps as near perfection as any department of agricultural improvement can ever become, and there is little difference in the application of its principles to English and American soil. Very little skill is required to drain land with tiles for a time. Indeed I have never yet seen a piece of land so badly tile-drained, that it failed to satisfy the proprietor. By and by, however, the difference between careful deep drainage and careless shallow drainage, will be apparent, the former being permanent, and the latter temporary. My drains at Exeter, laid from four to seven years ago, usually four feet deep, are as perfect as at first. I observed but one spot where there was any failure. There was some obstruction, and the water had burst up to the surface, and was running down a side-hill quite merrily. It was in a place where we had graded down the surface, after laying the drains, and so reduced the depth. These breaks, which may occur in the best work, by a defective tile or a stray frog or mole, can be readily detected, and by opening a trench with a spade, may be repaired in a very few minutes. This is one great advantage of tiles over stones, that the former may be easily repaired, while a stone drain once filled with sand, can only be relieved by great labor. By thrusting down a bar, a skillful person may ascertain within a foot or two, in a tile drain, where the obstruction occurs, as the water will rise higher above than below it.

My drained land, which formerly bore cranberries naturally, and could not be plowed, is now fit for an early market garden, yet never suffers from drouth.

A Little Talk about Sheep.

On the seat with me in the car, sat a fine looking young man with the hard hands of a laborer. Thinking I might gather some useful information without much trouble, I made inquiry of him about the state of affairs "down east." He informed me that he "worked out" most of the time, and owned some pasture-land in Franklin county, in Maine; that the country was never so prosperous as at present; that traders, lumbermen, and farmers, were all doing well; that there was more lumber cut the past winter than any other year for five years. He said that sheep are altogether the most profitable stock, and that everybody was keeping them, mostly at present for fine wool, but he agreed with me that the coarse wools and mutton were now more profitable. He says they get from 75 to 90 cents per pound now for wool that formerly brought but 25 or 30, and confirmed the opinion of most experienced agriculturists, that no stock improve a pasture like sheep. He owns a pasture of eighty acres, on which he pastures three hundred sheep, from about May 10th to nearly December, and thinks the best way is to have no shades trees in the pasture, so that the sheep will leave their manure evenly over the land, which they will not do if there are shady places. The people in that country frequently have a small shed, which is moved from place to place by cattle in the pasture, in which their sheep find shelter from the storms, and by moving this shed, and by keeping salt in different localities, my informant said the sheep would be persuaded to go where it was thought best to have them, and that in about seven years a pasture or run-out field would be made rich enough for any purpose, by feeding it constantly with sheep. He spoke with good courage of the war, and said that his two brothers were in the service, and that all the best young men of the town where he lived had gone; that the minister had volunteered as a private, and gone with the company to take care of them, and had recently received a lieutenant's commission, and that he had instructed them so well how to take care of themselves, that at the last accounts, when they were above New-Orleans, not one of their townsmen had been ill a single day. This young man said that he got what education he had, by walking to a high school three miles off, and I should be proud to introduce him to any foreigner as an illustration of what New-England common schools and true republican ideas can do for a community.

Agricultural Colleges.

It should not be forgotten in any State, that the last Congress at its first session, granted to each State, upon certain conditions, a quantity of land equal to thirty thousand acres to each member of Congress, to be applied to the support of at least one College for the promotion of education in agriculture and the mechanic arts. This gives to Massachusetts 360,000 acres, and to New-York more than a million acres. Whether New-York has yet appropriated this fund, I have not observed. The subject is now before the General Court of Massachusetts. All parties are united in opinion that the grant should be accepted, but the details for the plan of a college are not so easily arranged. The subject deserves careful consideration in every State, as it will be found that many practical difficulties will arise in executing any scheme.

Where are teachers to be found? This will be the first question. Where are men qualified by education and taste and habits of life to fill in each State the various departments of a college that shall be distinctly a college for the purposes indicated in the grant?

Governor Andrew, in his inaugural, recommends that the grant of Congress and a large fund known as the Bussey fund, bequeathed with two hundred acres of land near Boston, the whole valued at $250,000, may be in some way united if possible with all the other instrumentalities, that Harvard College could lend, to establish in Massachusetts, an institution of the very first rank, both to teach practical agriculture, and to prepare teachers to supply the demand which will soon be made for them.

Here at home, we do not hesitate to say to each other, that Massachusetts ought to take the lead in this matter. Perhaps it may not seem modest to suggest this view to the people of New-York. At least, we will try to establish the model agricultural college of the country, and if New-York can excel us, we shall rejoice in her success.

Who are to be students at such colleges, is a question to be considered at the outset, because it is in vain to establish schools, except upon a plan which will so accommodate the wants of the country, as to fill the classes. The highest agricultural schools in Ireland, where the system is pretty thoroughly in operation, are for the education of land stewards and farmers. The land in Great Britain being owned in large tracts by noblemen and gentlemen, who have not taste or leisure for personal attention to their estates, stewards are employed to manage them, and they should be good accountants, and practical business men. The farmers are those who have farms varying from 100 to 1,000 acres or more, and who need a practical training for their business. In this country we have no need, or very little, of stewards, but our farmers do need a training such as agricultural schools

may afford. This however is but a lower branch of education in an agricultural college. Although we do require that existing knowledge should be diffused, as is done by our common school system so admirably, we should aim still higher, and devise means to increase the amount of knowledge, to make new discoveries in science, to systematize all that is already known, and then to add to the sum of it. To this end we need the very highest ability in the country to construct and manage the institutions in question. We may then attract to them not only those who intend to work, but those who desire to devote their lives to scientific research in the departments of agricultural and mechanical science.

It is to be hoped that these colleges will not stop at becoming mere manual labor schools, but will take rank with the highest literary and scientific institutions of the world. If the COUNTRY GENTLEMAN will keep its readers advised of the progress of the present agricultural colleges of New-York, of which we have from time to time had accounts, it may aid other States in forming their plans of operation under the grant of Congress.

A committee of the Massachusetts legislature has recently visited the Agricultural College of Pennsylvania, and brought back a very favorable report of its operations.

The liberality of our commonwealth in all matters pertaining to science is well illustrated by the recent appropriation of $10,000 for a catalogue of Mr. Agassiz's Museum of Zoology, which is said already to contain the best collection upon this continent.

But our hour I fear is already exhausted, and we must postpone the many topics that a glance at your paper suggests. Very truly yours,

Boston, April 16, 1863. H. F. FRENCH.

[For the Country Gentleman and Cultivator.]

CULTURE OF HUNGARIAN MILLET.

EDITORS COUNTRY GENTLEMAN—My impromptu communication on Hungarian Millet, in the GENT. of the 23d inst., has given rise to many inquiries of me, relating to my soil, cultivation, quantity of seed, time of sowing, &c., and perhaps I had better, with your permission, say a little more on the subject, and try and answer such questions as may suggest themselves to those interested who have read the GENT. referred to. In that article, I only intended to answer the sweeping charge of *humbug*, as applied to what I deem a very valuable farm product, and all the statements there made are true, but I would not carry the idea, that such a crop could be produced on any variety or condition of soil. I spoke only of my own experience, and described substantially my own soil. I have seen other crops as heavy as mine, raised in the vicinity of this city, but they have all been on bottom lands or alluvial soils, near Buffalo creek or other streams, and I have seen small patches of the same Millet, on high worn out lands, which did not succeed well. My conclusion is, that bottom lands or prairie soils are the best adapted to the growth of the crop spoken of, but I really know but little of it, further than my own experiments. My soil was not manured, but it was good, and I do not believe that poor soil would produce a heavy crop of Hungarian, or any other valuable product. My experience all points in that direction.

I have never seen evidence that Hungarian exhausted soil more than any other crop of equal value. I have never discovered a way to get a heavy crop out of the ground, without exhausting the ground accordingly, although I admit some difference in crops in regard to that matter. I never could get something from nothing, or a great deal from very little.

Without carrying this subject farther, I will try to answer a good many questions in a short way. I am aware of the value of space in your columns. My advice regarding the cultivation of Hungarian Millet is as follows:

Prepare the ground as for oats or spring wheat. Do all the dragging before sowing. Sow from 12 to 28 quarts per acre, as you desire your hay fine or coarse, as the quantity of seeds between these points will not increase or diminish the crop. After the sowing a very light wooden tooth drag will do—but if the ground is in the right state, (dryish,) a roller is better. If the soil is fine, and you can sow immediately before a heavy rain, neither dragging or rolling is required.

Sow whenever it is the right time to plant corn. It is like corn, and will not grow until corn would, and frost will kill it as quickly. Time of harvesting—ninety days from the sowing.

It will not do to sow it as a seeding crop for other grasses to follow, for if it grows as mine did, it will over-top and so shade the roots, that it will destroy everything else there, even weeds.

I have never known of more than one variety of Hungarian Millet, but I have noticed a difference in the color of the seed. The seed of mine was more than one-half black or brown; but I have been told that the soil made the difference. I do not know this.

The foregoing remarks embody answers to all the questions I have been asked by letter or otherwise.

In regard to this matter, I repeat what I before said to the Editors, that I have no personal ends to serve, and my desire is that they use perfect freedom to publish or not, as they think may best suit the interests of their readers. I have no other object than to contribute my ability to serve the interests of agriculture, and when my silence will serve it best I am quite content.

Buffalo, April 25, 1863. HAMPTON DODGE.

Over-Feeding and Care of Hens.

"E. C. K." says his hens did not lay, that he kept them on short allowance for a short time, that then they began to lay again, and asks for other's views on the subject. I have kept hens for a number of years, and speak from experience. The first winter that I kept hens I had the same trouble with mine, and took the same course after killing six of the fattest, which dressed a little over six pounds each, although when I bought them in the fall they weighed a little over three pounds each. Hens of all breeds but the White-faced Black Spanish, will take on too much fat if fed high, and will stop laying. The Spanish, when full or half-blood, can be fed as high as one pleases, and will lay the more eggs the better they are kept; but must have a warmer place for winter than any other breed that I have tried. I have about thirty-four of them now, which I have kept as follows: I have fed them with corn, barley, oats, and buckwheat, keeping two or more of the above named grains before them in a box about six feet long, two wide, and the sides three inches high, but mostly the latter, with a little corn. In addition, they have had two or three good heads of cabbage each week, all the fresh meat they would eat, and two quarts of meal scalded, with about five large iron spoonfuls of finely powdered oyster shells weekly, also a box of old plaster pounded up, by them all the time, of which they have eaten nearly a bushel since the 1st of Dec. last. During the winter I gave them about once a month, a peck of small potatoes, with about ten small onions boiled and mashed up with meal and shorts in equal parts, to keep them from getting lousy. The result at the present time is, that I have sold nearly double the value of eggs that it has cost to keep them. I have not cleaned out their house since last December, and do not think it the best plan to clean out the droppings, as many recommend, but put in one corner of the house as much fine loam as I think will do for the season, and every week or two throw about an inch and a half of the loam over the droppings, first sprinkling on a half peck or more of ground gypsum; the method will keep down all the ammonia, and give a fine lot of manure in the spring. I might add that my roosts are suspended from the top of the house on wires, which I keep well covered with kerosene oil, and that I have not been troubled with lice at all.

One word about poultry houses. I think a good framed house is the cheapest in the end, and that I should as soon think of having my barn on wheels as my hen-house, as the use of loam as above, gives a fresh surface for the hens, which they must have to thrive well. I do not find a floor of any use, but rather a detriment, as I have found that the less wood the hens come in contact with, the less likely they are to be troubled with lice. BROOKS. *West Boylston, Mass.*

COCHIN CREEPER FOWLS.

[For the Country Gentleman and Cultivator.]

COCHIN CREEPER FOWLS.

Vermont has long been famous for her fine sheep and superior breed of horses, and now she claims no little credit for the improvement of the denizens of the poultry-yard.

Considerable excitement, we are told, was manifested in this section a few years ago in regard to the subject of domestic fowls, and it is a marvel that for so long a period so little interest should have been manifested on this subject. The intrinsic value of a hen being so small, and the facility of multiplying her progeny so great, has perhaps furnished one reason why the subject had been so slightly considered. But progress seems to be the order of the day, and improvement in domestic fowls, as well as improvement in the more costly and valuable stock of the farm, seems to have attracted public attention.

Shanghais and Chittagongs must now hide their heads, (and *shanks* too,) in obscurity, for they have formidable rivals in the Cochin-Creepers. No longer will they walk in leisurely possession, but mope away, and any one may see that

"As runs the market crowd,
When catch the thief resounds abroad,"

So will the *taste* go after the Cochin-Creepers—those large bodied, short-legged, useful fowls and capital specimens of the feathered race.

But to return to the Cochin-Creeper, the subject of this notice. Early in January we purchased of a neighboring farmer, a pair of chickens, and when cooked and placed before us, their round plump bodies, full breasts, short joints, white, fine-flavored meat, attracted our attention, as being somewhat different from the large sized fowls, and this led us to ascertain, if possible, to what breed or family they belonged. The size (5¼ pounds, dressed) did not indicate them as Shanghais, nor their full breasts as Chittagongs or Cochin, nor their short legs as the Dorking, but the five toes did betray Dorking blood; and the short legs told plainly of Creeper relationship.

We now set ourselves about to ascertain their whereabouts. Inquiring of a man who was hauling wood for us we learned that they were bred by a farmer near him. We engaged him to procure a trio, a fair sample of the stock, that we might see them with our own eyes. A few days afterwards he brought us the required number, two hens and a young cock bird. The hens were said to be two years old, and weighed respectively one 6½ and the other 6¼ pounds—the cock 6¼ pounds when 6 months old.

We now felt more anxious than ever to see the stock and learn their history, how they were bred, etc, and for that purpose we visited the farmer and elicited the following, which we give in his own words: "I formerly kept," said he, "the common fowls of the country, generally called dunghill or barn door fowls, a small, wild, unprofitable race. About ten or twelve years ago I commenced improving my stock by introducing a Dorking cock into my yard. I bred to him two seasons. I then disposed of him and all the young cocks and all the old hens, selecting and retaining the best pullets for breeders. I then purchased a Shanghai cock, and after using him one year, and finding his produce rather coarse and leggy, I disposed of him and substituted a medium sized Cochin China cock, using him two years; then a large sized Creeper cock, for the same length of time. By this cross I obtained a fine lot of pullets, about one-half of which were on short or creeper legs; these I kept for breeders. Having got all my stock on short legs, I returned to the Cochin and then bred to him—the produce is what you see before you, about one-half large bodied, short-legged fowls—hence the name of Cochin-Creeper.

"As market fowls and winter layers," continued he, "I have found these Cochin-Creepers, taking them in every particular, the most profitable fowls I have had or ever saw among my neighbors, who have kept many more different sorts than I have; but I always have eggs when they have none. If they hatch in March and April, they will begin to lay in October, and keep on laying till June, and some of them will lay till July; and then when done moulting they will begin to lay again in December, or before, and lay as long as they did the first year, and as well. I have no doubt they would do well the third season, but I keep them but two. I clear off all the young cocks before they begin to interfere with the hens, so as not to have them breed in any further than one cross. For market or for table I have never found their superior, being of good size, and dress beautiful yellow. I consider them healthy, hardy, easy to keep, and in all respects a desirable and valuable fowl."

The aim now should be to establish permanency of character; and to establish a new variety it will be necessary, to some extent, to breed "in-and-in," if it is wished to perpetuate the desired qualities, and to give that fixedness of type and uniformity which is of great importance. Some breeders, however, think that breeding "in," and then "out," produces the best results. By breeding "in" and then "out," is meant breeding an animal into the same family from which it sprung, and then into a family of the same breed, several degrees of relationship removed from it. But this is not sufficient; care must be taken to select those birds that bear the closest resemblance to the model fowl, including form, size, color, quality and docility. It should be borne in mind that in determining the character of the offspring, it is

found by experience that the influence of the male is greater than that of the female.

The merits of the Cochin Creeper fowls can not fail to recommend them to persons in city, village or country. Whether as egg producers or meat, as sitters or as nurses, they are said to be unrivalled amongst all fowls. In the latter, they are said to shine pre-eminently. For with their great weight, unless nature had endowed them with singular care and tenderness for their young, they would tread half of them to death; whereas it is found that not a single chicken is lost from that cause. If the farmers who have no yards for separate breeding, would supplant all others with the Cochin Creeper, it would not fail to increase their income.

These observations are not addressed to those who are prejudiced against, and do not keep fowls, but to those who at present keep bad ones, with a view to encourage them to get good ones.

Our figures at the head of this article, with few exceptions, are pretty correct representations. The legs of the Cochin Creepers are somewhat shorter; the body of the hens is larger, tails fuller, longer and more elevated. The legs of the cock are shorter, tail longer, fuller and more erect, and shows the rudiments of sickle feathers. C. N. BEMENT.

[For the Country Gentleman and Cultivator.]

HENS PLUCKING FEATHERS.

I have been trying, for the first time in my life, to have eggs through the winter, and with good success. But one thing has troubled me. My hens began to pluck feathers early in the fall, before they were shut up, and have continued till now. I have killed those which were the worst. They have done no damage except in destroying their beauty. They break off a large part of the feathers instead of pulling them out, so that they have a frowzy neglected or abused look. I have a beautiful lot of hens, a cross between Game and smooth-legged Bantam and Chittagong; the last neither pull feathers, nor allow theirs to be pulled; but the others would pick up a feather sooner than corn. They are fine layers, active, and beautiful, but I do not like their habits; they are too uneasy. One or two of them have had the gapes this spring, and I do not know what to make of it.

Portage Co., Ohio. A. J. HART.

[For the Country Gentleman and Cultivator.]

IMPROVEMENT IN DRYING FRUIT.

Vol. 20, page 207 of the COUNTRY GENTLEMAN, gave us an article headed "Best Way to Dry Apples." The writer advised stringing up the apples, piece by piece, and hanging on a movable frame, to be placed either in the sun or before the fire, according to the weather. This sounds strangely; certainly it is queer advice for an experienced man to give at this day. It will not do for farmers now to fall back on the drying-kiln, or suffer their families to spend their time in drying fruit in the sun or before the fire, while a sure, cheap, and expeditious mode is open to them.

A good dry-house, (indispensable to every farmer,) may be built for fifteen dollars, which will dry from one to two bushels of apples, each 24 houses, the quantity dependant on the size of the house and of the fruit. When dried, the fruit is in good order, white, clean, and free from scorch, at the same time perfectly dried. With a regular fire, peaches will dry as well as apples; indeed the dry-house is available for all fruits, large or small, nothing more being necessary in drying corn and small fruits than to spread some thin old muslin in the drawer to prevent falling through between the slats of the drawer. With this simple addition to the drawer, the dry-house is far ahead of the stove-room, with the willow baskets or drawers, as described by Mr. CLARKE, vol. 20, p. 109, being more simple, cheaper, and more expeditious.

If we, as farmers, would live well and comfortably, we should put up all the green fruit possible, and dry plentifully of apples, peaches, quinces, plums, and by no means neglect the sweet corn. BUCKEYE.

Our correspondent will greatly oblige us by furnishing our readers with a full description of his dry-house, with the details necessary to enable any one to carry the plan he recommends into operation.

THE CULTURE OF THE HOP.

EDS. CO. GENT.—I noticed a long time ago, some inquiries about the culture of hops. I have a telegraphed hop-yard of five acres, which was picked last year for the first time. In this yard the rows are 7 by 8 feet apart—the widest way north and south, to admit more sunlight between the strings. In some of the wired yards the rows are only 6 by 7 feet apart; but so far I consider the 7 by 8 the best on several accounts.

When I got my roots, the man I got them from told me that five bushels was enough for an acre. Roots were very high that spring—worth $1 per bushel. There is a great waste in cutting them, for they are more or less torn, bad roots, that is impossible to get two good eyes on a set, and it requires five sets to each hill. Why I speak of roots is, that it is very essential you have plenty of *good roots;* unless they are good it will take more than five bushels to plant an acre.

There are several kinds of hops extensively cultivated in this part of the country; the best is the Grape or English cluster; the old fashioned one hop some still consider the best, but the pickers like the cluster best.

I have a new yard set which I am intending to balloon, that is, to set a long pole, say twenty-two feet long, on every other row and every other hill; run seven hills to one pole; then set short stakes, about six feet long, at each hill, and a string running from the top of each short stake to the top of the long pole for the vine to run on. This is as cheap a method as can be done; some think it is the best on several accounts.

One other manner, aside from the old stand-by way of setting two poles to each hill, is to have one wire for three rows, and a short stake to each hill, then a string and hook to fasten to the wire; use strings for the middle row; use No. 8 wire; this is called tenting, not as expensive as to put two poles to each hill. I am almost out of conceit of poles; some say it is the most natural. I consider it the most unnatural way, because the vine requires tying several times to make it run up the pole; and on strings all that is to be done is to just start the vine on the string, and no wind can possibly blow it off.

About the yield, price, &c. Last year was an uncommon good year for yield and price. An average crop is from 800 to 1,500 pounds per acre, although last year some yards went as high as 2,200 pounds per acre; the largest share of the hops sold for 12½ cents per pound from the grower; it runs according to the price, from $150 to $500 per acre. I sold mine for 22 cts. per pound in New-York. I had a light crop.

I consider it a good investment for a farmer, *providing he continues the business.* I don't know of a man who has raised hops for a series of years, but is "well off," and some of them have made from $50,000 to $75,000. There can be a good deal said on the culture of hops that would be interesting to your readers, if I had the "nack" of telling it. WILLIAM RHODES.

Babcock Hill, New-York, April 17, 1863.

NORTHERN SPY APPLE.—L. WETHERELL of the Boston Cultivator, stated at one of the Agricultural meetings in that city, that the Northern Spy had been raised at Acton and had been sold at *five dollars* per barrel in Boston, and second pick for $4, when Baldwins sold for only $1.25 per barrel. He said they were better than any he had ever seen in Western New-York.

NEW PEAR.—JAMES OLIVER of Lynn, Mass., (a well known amateur fruit culturist, and whose ingenious mode of converting dwarf pear trees to standards we published last summer,) furnishes us an account of a new pear which he calls the *St. Crispin*, and which was raised by Israel Buffum in that city. It is 20 years from the seed, and bore last year about two bushels, "all fine and fair." It is a fruit of great beauty, texture like the Bartlett, and equal to it in flavor, but keeping longer, or 3 to 4 weeks after gathering—specimens sometimes weighing 14 ounces.

VALUE OF HUNGARIAN MILLET.

EDITORS COUNTRY GENTLEMAN—While perusing the GENTLEMAN of the 26th ult., I was astonished to read what F. R. B. says about Hungarian grass, classing it among the humbugs of the day. He has either had but little experience, or results have been very different with his crops to what mine have been. I own a farm, and have sown Hungarian grass every season of the last four, and have never failed to have tremendous crops during the time. I can show positively, that I have raised five tons of cured hay to the measured acre, and the ground on which I raised that quantity of hay had not been manured for years previous.

I own in my business a good many horses, and many of them I have wintered entirely on Hungarian hay, from December to April, they having not a mouthful of any thing else, and in all the wintering of horses that I ever did, I never had them do as well or look as well in the spring as those.

I continue to sow Hungarian, and now consider it the most profitable grass crop that I can sow. I have no other object in writing this, but to correct what I consider a great error, not knowing how, or why, it was made, and for the sake of right I cannot allow such a statement to pass unnoticed. His land may not have been well adapted to its growth, or it may not have been properly sown or cultivated.

My farm is a flat, mucky soil, with a stiff clay subsoil, below the depth of the plow.

I think this wholesale denunciation of so valuable a farm product is not right. I would willingly give any further particulars to any one, who thought worth while to address me on the subject. HAMPTON DODGE.

Buffalo, April 11, 1863.

COUGH IN SHEEP.

MESSRS. EDITORS CO. GENTLEMAN—Observing in your number for April 9th, a subscriber from Montpelier, asking for information or remedy for cough in sheep, I wish to say that I have had a few cases similar to what he makes mention of. He says he tarred their noses, gave sulphur, and neither gave any relief. I should not think they would derive any benefit from such treatment, for it is evident that the cough must be brought on by a cold which settles on the lungs. Therefore, it is an inside disease, and must be treated accordingly. As I said before, I have had a little experience with it, and I give my remedy for what it is worth.

I take one teacupfull of linseed and boil with one gallon of water until it becomes sufficiently thick, and when nearly cool give to one sheep about one quart daily, first thing in the morning, by pouring it out of a bottle into the sheep's mouth, taking care not expose to all the storms that come, or rather keep them in comfortable quarters providing any such weather should arise—as I think good care and nursing is about as good as all quack medicine.

I had a Leicester ram taken with the cough same as Subscriber's, as near as I can tell. He crossed the Atlantic in March one year ago. After I got him home I gave him linseed tea daily, and I found a great improvement in the course of a few weeks, and before the summer was over he was perfectly recovered, and I got stock from him in season of course. He being a valuable one, I gave him great care, never allowing him to take cold a second time, as I considered he took cold on the ship in the first place, and which settled on the lungs; but taking it in time, before it was allowed to progress too far, it was subdued. A great deal depends on the party that has the management of the flock—one who has a quick eye that can detect a disease before it goes too far. When a complaint becomes a fixture, a remedy is hard to find, it being far more easily arrested in its first stage than when of long standing.

I consider linseed one of the most useful things a farmer can grow, for there is scarce any thing but what is fond of it; and as it is of a cooling and easy digestive nature, I look upon it as one of the things that no farmer should be without, and at the present time the fibre must come more and more into use, as cotton is advancing in price.

Norval, C. W. JOSEPH KIRBY.

PLANTING POTATOES.

Your columns of late have been so often enriched by articles on the "Culture of the Potato," that I fear you will consider another contribution upon the same subject, tiresome. But a correspondent, B. J. CAMPBELL, inquires "how to prepare the seed of the Garnet Chili potato for planting." Now, his own experience last spring may give him a key to the true theory. If planted in hills 3 to 3½ feet each way, in no case should more than *four* eyes be put in a hill. If planted in drills 3½ feet apart, *one* or *two* eyes placed 12 to 14 inches apart, is sufficient. There is a difference in varieties,—some require more seed than others. The Garnet i not a favorite of mine, but I have raised it for three years, and have always treated it the same as other varieties, with the same result as to size. If a good potato, planted on proper soil at the proper time, and well cultivated, produce small ones, you may rely upon it there was *too much seed.* My manner of cultivation differs somewhat from the practice of some of the "potato kings" of our country, but I have uniformly been successful, and rarely raise small or diseased potatoes

Batavia, N. Y. P. P. B.

Coal Tar for Seed Corn and other Purposes.

I always keep a barrel of coal tar on hand, considering it one of the most useful articles a farmer can have, painting fences and gates, doing over flat roofs, (of which I have several,) and for various other purposes. I find nothing more effectual in preserving posts, by giving the part which goes in the ground a couple of coats of hot coal tar.

Three years ago I had a couple of acres of corn taken up by some "varmint," upon which I thought I would try my grand panacea, coal tar. I warmed a small quantity, say a half pint, poured it on a half bushel of seed corn, and by stirring coated every grain, then sifted ashes enough on it to cover or coat the grain over, which makes them easy to handle. Since that time I have had no trouble; the crows and squirrels pull up a few, but soon become disgusted and abandon the business. T. V. P.

Mt. Carmel, Ohio.

A PROLIFIC HEIFER.

MESSRS. EDITORS—Major John D. Leland of Deerfield, Oneida Co., N. Y., has a thorough-bred Durham heifer which will be three years old the 3d of June, and which has already added four head to the number of his stock. When two years old she had a pair of twins, and a few days ago had another pair of twins. Capt. P. Cook, the careful herdsman of Mr. Leland, a gentleman of extensive experience with cattle, wishes to know if any of the cattle breeders in this State can beat his heifer in productiveness. J. E. MORGAN. *Deerfield, N. Y.*

Cure for Scratches in Horses.

After washing the parts with soap suds—letting them get thoroughly dry—take one part of sulphur, and two of lard, mix them well together, and annoint the parts. This I have known from my own experience, to cure the worst cases of it. It will also cure greasy heels, which I consider worse than the scratches.

EASTERN DUCHESS.

I have not seen any report of the past season, from this part of the State. I propose to supply it very imperfectly. We had expected the statistics of these towns to be collected, but no blanks have been received, so far as I have heard.

The season has been, in general, a prosperous one for farming, and most other labors. It was rather too wet from the fourth of June till the first of September, which lessened the corn crop some, and injured the quality of the hay, though the quantity was increased. Oats had a great growth of straw which was lodged, but the grain was scarcely an average, and light, not weighing more than 25 or 26 pounds a bushel. The wheat (which is winter wheat) has been an average yield, say about 16 bushels. Potatoes a fair crop, not much raised for market. Of apples a boundless quantity. Increased attention is given to other fruits. Our largest income is from the grass crop, which goes to market in the shape of beef, mutton, wool, butter, and milk. The past season has been favorable for these products.

This valley, through which the Harlem railroad runs, extends through Pawling, Dover, Amenia, and Northeast; a part of it is called the Oblong. It is a large part gravelly loam (drift,) though there is great variety of soil, most of it in a good state of cultivation and very productive.

The style of farming has changed in this valley, as in other parts of the State. Sixty years ago wheat was the principal staple, and was largely exported. When this began to decline, the farmers raised more largely of corn and oats, and turned their attention to fatting cattle. The corn was turned into pork, of which great quantities were carried across the county to Poughkeepsie. A little later, wool growing became the leading business. The number of sheep in these four towns, in 1835, was 63,695, improving the land and adding to the wealth. After the completion of the railroad, the production of milk for the New-York market became the most extensive business. It is not only directly the source of the greatest revenue, but it gives a home market for all the grain raised here, and for other farm products. It is probable that in no other way can a grazing farm be made to produce so great an income, as by the sale of milk. Some serious objections to the business are obviated, by the introduction of a plan of condensing the milk, which is done at Wassaic, where from 6,000 to 10,000 quarts of milk a day are condensed, and a part of it prepared with sugar, so that it may be kept any length of time. This establishment gives employment now to about forty hands, and the business is increasing. The price paid for milk, to those who send to New-York, and to those also who sell at Wassaic, is two cents a quart in the summer, and three cents in the winter, and the average annual income from the cows is not less than fifty dollars a head. In many dairies it is much more. It is necessary to a good profit that the cows should be well fed, and it is usual for the milkmen to feed to their cows, in winter, all the grain raised on the farm, and in many instances they buy. Sowed corn also affords a large amount of excellent fodder. The result of this high feeding is an increase of rich manure and consequent improvement of the soil.

Corn is the most important crop of grain raised here, though for various reasons the increased product per acre is not equal to the increased fertility of the soil. One of the chief reasons is the destruction of the crop by the "cut" or "corn-worm," and the muck worm. Following corn is almost universally the oat crop. There has been a falling off in the excellence of our oat harvest for the last ten years, which is unaccountable. On all land which is as rich as it should be for corn, the straw grows rank and falls down, but the grain is light, and yields but thirty or forty bushels, where we used to get fifty or sixty. It begins to be doubted by some whether oats is a profitable crop, especially as it is believed to be an exhausting crop. It would be a boon to us if we could learn the cause of the difficulty, and be able to avoid it, or if we could find a substitute for oats in our rotation of crops. Wheat is not so extensively raised as it should be in this district, naturally so well adapted to it. Some farmers do not attempt to raise their own bread. It is true the yield per acre seems small, and appears to justify the declaration that our lands are becoming impoverished. But it should be considered that it has the poorest chance in the rotation, coming after corn and a rank and exhausting growth of oats; also, that it is only the Mediterranean wheat which is safe to sow, and which never yields so well as the kinds which we used to grow. The average, which I name, is the average of all the years, including those in which the crop was an entire failure. The value of wheat this year, including the straw, is more than thirty dollars per acre, which is better than paying ten dollars a barrel for flour.

There is but very little grain sent to market out of the valley, and very little hay. The coarse grains are purchased by milkmen and teamsters, and extensively fed to fatten cattle, sheep and hogs. The principal sources of income for those not in the milk business are fat cattle, sheep, wool, market lambs, butter and pork, besides wheat, corn and oats (consumed in the district.) The market lambs are mostly raised from fine wooled sheep, crossed with a coarse buck. There is no stock more profitable just now, and even in all the vicissitudes of the wool market, the united product of the fleeces and lambs has made this branch of farming remunerative.

Good farms sell at $60 to $100 per acre. There is just now some interest excited in real estate by the disposition of capitalists to invest their money in desirable farms. N. REED. *Amenia.*

Culture of Salsify or Vegetable Oyster.

Will some reader of the Co. GENT., please inform me how to raise the vegetable oyster or salsify, and prepare the same for the table in the best manner?

Butler Co., Ohio. JOHN EARHART.

In answer to the above, we copy the following from Buist's "Family Kitchen Gardener:"

Salsify is a hardy carrot-rooted biennial, a native of the mountain meadows of Switzerland. It is considered wholesome and nutritious, and much esteemed by some classes, under the name of oyster plant, from its flavor, after being cooked, having a considefable resemblance to the oyster. It makes an excellent variety at the table, and forms an agreeable dish throughout the winter season. As the oyster is a very celebrated fish, and many in the interior rarely obtain it, all may cultivate this vegetable, which really makes a near approach to it in taste, when cooked in the following manner: Previous to boiling the roots let them be slightly scraped, and then laid in water for about an hour; then boil them till quite tender. Let them be taken out and laid to drain for a short time, during which a thick batter should be made with the white of eggs beaten up with a little flour. Grate the roots down tolerably fine; press them into small flattened balls; dip these in the batter, and roll them into grated crackers or crumbs of bread; then fry them in a pan till they are of a deep brown color, when they are ready for the table, and will form a very agreeable and even delicious dish.

CULTURE.—Sow the seed in drills, half an inch deep and ten inches apart, in April, or before the end of May. As soon as the plants are an inch high, thin them out with the hoe to four or six inches apart. Keep the ground clear of weeds, giving them the general culture of carrots. This vegetable is perfectly hardy, and may stand out all winter, though it is necessary to store away a quantity for winter use when the ground is hard frozen. They like a deep, rich soil, and will be in good condition for the table till the end of March.

A machine has been invented which is to be driven by the force of circumstances.

DWARF CHERRIES.

These are raised by budding any variety on the Mahaleb stock. For a few years they grow as rapidly as on other cherry stocks, but never attain a very large size. The Dukes and Morellos form the hansomest dwarfs. The Mahaleb has another advantage—it gives greater hardiness and better fits the Heart cherries for heavier soils, and for some other unfavorable influences. The Morello also makes a good dwarf stock, and this is the best and surest way to raise cherries for some portions of the West, where they will succeed in no other way. The Dukes worked on Morello stocks are extremely hardy.

The figure here given, from one growing on the grounds of Ellwanger & Barry, Rochester, (Knight's Early Black, ten years old,) does not show the profuse bearing often witnessed on dwarf cherries, the branches sometimes presenting almost solid masses of fruit. Dwarf cherry trees, on the grounds of the writer, trained as pyramids, are often loaded down to the ground, and are beautiful in appearance, while the fruit is easily picked, without the aid of stools and ladders.—*Tucker's Annual Register.*

To Destroy Caterpillars.

A quoted writer says:—I took a pan, large and flat, filled it with burning charcoal, and placed it under a tree—then added a pint of rosin, and two ounces of sulphur. The fumes scattered the worms."

A WHEEL CORN-MARKER.

I have noticed some articles in Co. GENT. in regard to corn-markers. I made one last winter, and used it last season with the greatest satisfaction. I use wheels instead of runners, as wheels run much easier for team. I made four drum-wheels, two feet in diameter, and six inches wide, which makes a plain mark four inches broad in plowed ground. The wheels are arranged in a frame-work three feet ten inches apart, with a tongue for two horses, and a seat for driver, as I hold that a man can drive a team on a line better by riding than by walking, and the team will draw a man on this machine with less fatigue, and walk faster than they will dragging any marker through soft plowed ground. I can mark fifty acres per day with this marker, (I speak from experience,) and make straighter marks than can be made by *runners*.

Hickory Farm, Ill. S. H. W.

Recipe for Pickles.

6 qts vinegar, ¼ lb. salt, ¼ lb. ginger, ½ lb. shallots, 1 oz. mace, 2 oz. pepper, 2 oz mustard seed, 2 oz. red peppers.

Boil all together. When cold put in any kind of fruit as you gather, but have it well wiped. I know this to be good, and so little trouble. It is a nice way to make pickles for the sick soldiers. Have a cask with your vinegar prepared, and you save many things which otherwise would be lost, and they are very acceptable to a convalescent soldier.

MARYLAND.

HUNGARIAN HAY FOR SHEEP.

Last spring I had six acres of corn destroyed by gophers. It being too late to replant, I sowed the ground to Hungarian seed June 11th. Cut the same in Sept., and all who saw it estimated it at four tons to the acre. I commenced on the 6th of Dec. to feed a flock of 80 lambs Hungarian hay *once* a day, and oat straw well threshed with a machine once a day. This has been their entire feed save for ten days, when they had low land prairie hay instead of straw. They have had *no* grain, and are all alive and in good condition.

I think they will shear at the usual time of shearing, from five to six pounds per head, of washed wool.

Many think it too rich and oily for breeding ewes. I have seen no evil effects from it, but have fed them but once a day. W. MARKS.

Danby, Ill., March 26.

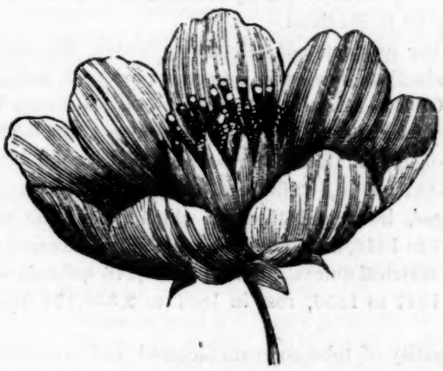
Recipe for Corn Bread.

1 quart of *coarse* corn meal.
1 quart sweet milk.
1 even teaspoon of soda.
2 even teaspoons of cream of tartar.
4 eggs well beaten (two will do.)

A piece of butter the size of a walnut—a little salt. Bake with a quick heat, and it will be as light as sponge cake. But remember you cannot make good light corn bread with *fine* meal; it must be ground coarse. MARYLAND.

BIDENS ATROSANGUINEA.

This new flower was first announced in Europe last season, and as soon as flowers appeared colored plates were given in the Botanical Magazine, Belgique Horticole, and Garden Flora, while Ortigies and other florists and botanists, represented it as one of the finest additions to our flowering plants. It was discovered by Roezi in Mexico. The appearance and habit of the plant are similar to the Dahlia, and indeed, at first sight, it would



(Flower natural size.)

BIDENS ATROSANGUINEA.

be considered a dwarf Dahlia. The leaves are very similar, and the flowers resemble a small, single, dark colored Dahlia. Roezi named it Dahlia Zimapani, but further investigation has proved that it is a Bidens. The plant is dwarfish in habit, growing only about a foot in height, even with the best of culture, branches very much, and blooms most profusely. The flowers are borne on long, slender stems, from eighteen inches to two feet in height; are single, dark velvety reddish-brown, called in Europe "blood-brown," with a cone of disc flowers, like the single Zinnia. The blooms remain fresh for a long time, and our plants have kept up a continual succession of flowers since the first of July. It is thought that a few leaves will afford a sufficient protection to the roots, and in this way it may be preserved, but this is of little consequence, as the seed germinates readily, and when treated like Ten Week-Stocks, or Balsams, commences flowering the latter part of June or early in July.—J. VICK, *in Tuckers' Annual Register.*

POISON CHEESE.

EDITORS COUNTRY GENT.—Dairymen who are using newly painted pails and cheese tubs, should be careful to have them thoroughly and repeatedly soaked before using, with whey and water, until there is no taint or odor from the new paint; otherwise more or less poison cheese may result. Cheese poisoned with lead, extracted from the paint by the milk and whey, and deposited in the curd, is not observable when first made, but during the process of curing it shows itself in dark and discolored particles through the cheese, injuring its sale and rendering it a dangerous article of food. An expert and honest cheese buyer will not touch it at any price. Cheese tubs should be discarded, and their place filled with the improved "vats and heaters." X. A. WILLARD.

Little Falls, N. Y. April, 9, 1863.

Remedy against Moths.

An ounce of gum camphor, and one of the powdered shell of red pepper are macerated in eight ounces of strong alcohol for several days, then strained. With this tincture the furs or cloths are sprinkled over, and rolled up in sheets. Instead of the pepper, bitter apple may be used. This remedy is used in Russia, under the name of the Chinese Tincture for Moths.

LICE ON CALVES.

Nature is the best teacher. When cattle are pastured they will paw dirt upon their backs and rub their heads and necks against banks of earth, for the purpose of destroying the lice. Moved by this suggestion recently, after having bought a new milch cow which was lousy, I dried some dirt under the stove, pulverized it, and rubbed on the head, neck and such parts as were most affected by the lice, which subdued them.

Two or three applications should be made, and again repeated after the nits or eggs are hatched, as the dirt does not destroy the eggs or nits.

Try it if your calves or cattle are lousy. It costs nothing, and has no injurious effects like poisonous applications which are most in use. GEORGE BACHELDER.

Stanstead, C. E.

To Cure Scours in Calves.

Take a piece of rennet, and soak as our cheese-making farmer's wives would prepare for cheese, and give, say six tablespoonfuls before the calf is fed. One dose I have generally found sufficient. The same remedy administered in larger doses, will cure the same disease in older cattle.—*Prairie Farmer.*

Some Figures in French Agriculture.

Official statistics have lately been published of the agriculture of France, which we have not yet seen in the original, but they contain some facts which, though they come to us at second hand, appear worthy of note. For the farmer here is interested in watching the progress of farm practice elsewhere, even though the light it may shed on his own pursuit is not of an immediately available kind.

France in one respect affords a parallel to this country —the south producing less, and the north more, than its own consumption of breadstuffs. In good years northern France exports considerable quantities of wheat, flour and barley, beside doing much to supply the deficiency in wheat grown at the south, which latter also receives supplies from Mediterranean ports in other countries.

The area reported as under cultivation in France is divided as follows:

Grain crops,	28.30	per cent.
Other crops,	5.00	do.
Artificial meadows,	5.00	do.
Fallow land,	10.80	do.
Natural meadows,	9.50	do.
Vineyards,	4.10	do.
Chestnut, Olives, Mulberries, &c.,	.20	do.
Pasture and wast lands,	13.50	do.
Forest, water, roads, buildings, uncultivated, &c.	23.60	do.
	100.00	

The agricultural returns given in the United States census of 1860, do not afford any basis for a similar statement with reference to the area under different crops in this country.

As to Live Stock we give below the estimated numbers in France, together with the census returns of the United States:

	France.	United States.
Horses,	3,000,000	6,115,454
Asses and Mules,	730,000	1,129,553
Horned Cattle,	10,094,000	25,640,337
Calves,	4,104,000	
Sheep and Lambs,	35,000,000	23,317,756
Swine,	5,400,000	32,555,267

This would certainly appear to afford room for two conclusions—1st. That the number of sheep kept in this country has been disproportionately small as compared with other kinds of live stock; and 2d. That we cannot have a very large Hebrew element in our population if the consumption of pork may be taken as a fair index on this point. What *can* become of all the pigs!

In France, it is stated that between three-fourths and four-fifths of the sheep are either Merinoes or tinged with Merino blood. But the consumption of wool in French manufactures is so great that considerable quantities are imported in addition to the home production. In 1861, 1,148,168 pounds of wool were exported from France into Great Britain, and 10,605,815 pounds were imported by her from the markets of the same country. And France imports many sheep, as well as cattle, from other countries for their meat—her average imports for consumption from 1856 to 1860 having been 402,000 sheep and lambs and 126,000 cattle and calves per year.

In 1847 there were 5,379,811 hectares (about 13,450,000 acres) under wheat; in 1857, 6,754,227 hectares, or nearly 16,886,000 acres. The crop produced varies widely in different years, having been 186⅔ millions bushels in 1853, and 302 millions in 1857—the latter year having given a greater yield per acre than any other for 15 years past. In 1861 a larger area was under wheat than ever before, but the average crop per acre was smaller. The total wheat crop of the United States is reported in the census returns of 1860, as but little more than 171 millions bushels; and a comparison between these figures and those showing the number of Live Stock in the two countries, affords evidence that our grazing and dairying interests must be proportionably very much larger than those of the French farmers.

The area of France is 209,240 square miles, with a population of 37,382,000 persons, or about 179 to the square mile. In the United States we have an area computed at about 3 million square miles and a population of 31½ millions, being a fraction over 10 to the square mile. In Great Britain by the last census, the density of population is 344 persons to the square mile in England and Wales, and 98 in Scotland.

Among the products not referred to above, the mean annual production of wine in France is now 1089 million gallons. Of this quantity, 67 per cent. is consumed in the country, leaving 33 per cent. for exportation. The beet root sugar manufactured rose from 52,369,000 kilograms in 1847 to 105,482,000 in 1861; and the consumption of sugar, home and foreign, which during the ten years, 1837 to 1846, amounted annually, on an average, to 1,119,830 metrical quintals, and to 1,335,246 quintals for the years 1847 to 1856, rose in 1861 to 2,356,170 quintals.

The quantity of tobacco manufactured and consumed in France rose from 18,753,000 kilogs. to 29,280,000 kil. within the same period, an increase of 23,000,000 lbs.

There is only one article of importance which seems to have declined, and that is silk. The annual average production of cocoons from 1846 to 1852 was 53 million pounds, which had diminished from 1858 to 1861 to 26½ million pounds.

CULTURE OF HOPS.

The successful cultivation of the hop implies watchful and incessant care during the first stages of its growth. They should be planted upon a warm, deep, loamy soil, on a dry bottom, which is best found upon a sandy, gravelly or stoney porous subsoil, affording drainage from off and about the roots of the plants during the rainy and frozen season of the year. Hops are one of the most exhausting among cultivated plants, both in respect to the organic and mineral constituents which are extracted from the soil. Therefore rotation of crops should not extend more than four years on the same ground, unless the soil is supplied with that which the hops most extract. In comparing the table of analysis, we find that both lime and potash enter largely into the growth of both the plant and hop. The usual mode of planting is to lay out the ground in rows 7 and 8 feet asunder. The best and quickest way to proceed in laying out the ground is to use a horse and corn marker, by having the pins in the marker 7 feet, the distance required for the rows one way. Marking the rows the other way is usually done by stretching a rope the distance desired, at which time the setting is done by the guide of the rope, by setting the hill where the rope crosses the mark made by the corn marker. The setting is done the first of May, by setting the roots of the previous year's growth, called runners, which are carefully selected, so as to get healthy roots, which are cut into pieces with two setts of eyes to each section—setting them with a dibble in the ground, with five setts in a hill, setting one at each corner of a square of 6 inches, and the fifth in the center of the square, all in an upright position, with the eye buds pointing upwards, and all beneath the surface of the earth at least one inch. In the planting there should be much attention paid to the introduction of a sufficient number of the male plants, one hill in two hundred, or about five on an

acre. They ought to be planted at regular and known intervals, so that in subsequent years they may not become indiscriminately mixed. The first year planting is usually done with corn, taking care not to encumber the hop hill; the after culture the same as for the accompanying crop of corn. As the corn matures and is fit for cutting up there should be much care taken not to cut the hop vine, which would be very likely to bleed, so as to injure the hill. In the succeeding month of October, or the first of November, there should be placed over each hill of hops at least one or more good shovels of well rotted manure for winter protection, and to enrich the ground for the benefit of the plant the succeeding season culture, which requires more care and watchfulness than the first year to secure a good crop of hops. As soon as the plants make their appearance above the ground the manure should be carefully spread over the hill. Then the poles are introduced, varying from 18 to 20 feet long, with two at each hill, and inserted in the ground in perfectly straight lines upon each row, and incision being made with the hop bar in the ground to a depth required for firmly holding the poles. Then the plowing commences, which is done by one horse, having the plow kept clean, beginning in the center of the rows, turning the furrow from the hill the first time plowing—subsequent plowing the furrows should be turned toward the hill.

The cultivator is used after each plowing, to level and pulverize the earth, which should be kept smooth and level at all times. The process of hoeing the first time is done as near as may be as the first hoeing of corn. The vine is usually tied up before the second hoeing, or as soon as the vine has grown from two or three feet in height; they are tied by selecting two of the most even vines for each pole, the strong rank ones being rejected, and subsequently tied until sufficient strength is acquired in the vine to force itself up to the summit for the production of its flower. The culture in the mean time is performed with the plow and cultivator and hoe, earthing up the hill a little the second time hoeing, keeping the ground clean and pruning the hills. Never suffer but two vines to grow upon each pole, which are preferable to a greater number. It may be here remarked that hops want richness of soil, which should be kept up in order to be a successful grower. Leached ashes is a good substitute for potash, applied to the hill after the first hoeing. When it is found to be important to use lime, it should be well slaked, half of a shovelful thinly applied to a hill in the month of October or the first of November, when lime is used. Muck should be applied to the hill in the place of manure for winter protection. Salt has also been found to be a good fertilizer when the vine is disinclined to run the pole; by making a brine and applying it in small quantity to the hill, it acts like a charm in facilitating the vine in running the pole. I have practically used them all, and found the productions good.

Picking usually commences about the first of September; as the flower becomes hard, with a bright yellow color on opening it, the envelope of the seeds a purple color, and the kernel or seed itself hard, they are ready for harvest. Picking is mostly performed by women with aid of men's help, to extract the poles from the ground, severing the vine some three feet above the ground, and placing them upon a frame over a box, which is subdivided into four apartments, and accommodates as many pickers, with each a box three feet long, two feet deep, and eighteen inches wide, each picker filling the box two or three times during the day, for which they receive from twenty to twenty-five cents per box.

Drying.—The kiln for the operation for drying should be constructed with much care, with stoves, and arranged in a room, and the hops laid and spread upon a cloth floor above, resting upon slats, where they dry in about twelve or fourteen hours. Hops in the green state, if left standing long after picked, are liable to become heated and change color, hence the kiln should be made sufficiently large for curing as fast as picked, at intervals of twelve to fourteen hours for each kiln.

Madison county, N. Y. D. B. SHAPLEY.

GRAPES FOR EVERY FAMILY.

There is no reason why every farmer and village resident with even but a small yard, should not provide for his family an abundant supply of grapes—a fruit liked by every one, and which can be grown almost as easily as the currant. A correspondent of the *Massachusetts Plowman*, thus tells us how he provided for himself and family:

The culture of this delicious fruit is now attracting considerable attention. No fruit can be grown more easily or more abundantly. The process is simple and sure.

I have a splendid vine of the Concord variety, which I put out four years ago, and which produced a large crop for its size last year. I procured the slip, then about eighteen inches in length. I dug a hole about two feet deep and about three feet square, which I filled nearly to the surface with old shoes, bones, pieces of carpets, which were useless for any other purpose, and covered them to the depth of six or eight inches with rich soil, and set out the slip. I watered it once in two or three days. It grew about four feet in the first season. I trimmed off the extra shoots, and thus threw all the strength into two main trunks.

The next year it grew very fast; and I kept up the pruning, taking off all the extra branches, so that the two trunks increased in size very much.

The next (third,) it blossomed very full, but I picked off all the blossoms but two, which ripened into the most beautiful clusters which I ever saw. The fruit was very large, fair and very rich, sweet and particularly juicy. Last year (fourth,) the vine blossomed very full, and the grapes were, as usual, very nice. In November last I gave the vine a very thorough pruning, and I look for an abundant yield the coming season.

With regard to the different varieties, I am inclined to favor the Concord and the Hartford Prolific, with a preference for the former. I have known the native grape cultivated in the way above described, and the fruit is very large and fair, but not so juicy or sweet. It is, however, considered by many to be far superior to any other kind for sweetmeats, and is used for that purpose. It is not good policy to take any southern variety and cultivate here in our short seasons. I know a Catawba which was put out a few years ago, which has produced well, but has never fully ripened, but has continued to ripen earlier every year. The gentleman who owns it expressed to me his opinion that it would so far accommodate itself to the season as soon to ripen before injured by the frost. Every vine should be set out in a warm sunny place, where the north winds do not affect it. The Concord and Hartford Prolific are great bearers, and ripen in the first days of September. I would like to hear from your numerous correspondents upon this interesting and *fruitful* subject.

TURF FOR GARDENS.

Messrs. Editors—The garden is the worst part of our farm to keep in the right condition for a garden, because they have no rest; they are kept up by high manuring, but still there is something lacking in the soil to grow perfect vegetables, and the garden grows lower from year to year by constant use.

When I broke the ground for a new barn, we plowed up large quantities of excellent turf; we put several loads in the hog pen, and then we covered the garden all over about two feet deep, and let it lay until spring, and then plowed most of it under, and such a garden as we have had this year without weeds, was not to be beaten. It appeared to answer the same purpose as stocking our farm lands down to grass, which many of us know is one great secret of success in farming. L. F. Scott.

Bethlehem, Ct.

[For the Country Gentleman and Cultivator.]

MANURES.

Messrs. Editors—In the Country Gentleman for April 23d, you give a detailed statement of an experiment by R. S. Rogers, Esq., of Oak Hill farm, near South Danvers, Mass., with different manures as a top-dressing of grass lands. From the statement it appears that *green cow manure*, at the end of a three years' course, gave considerably the largest results, compared with those portions dressed with leached and unleached ashes, composted manure and guano. The inference, then appears that green cow manure, as such, "*the droppings of only a few days before*," is superior to the well rotted composted manure, as applied to lot No. 1. From my own experience and observation, I am satisfied that this statement needs qualification, and teaches a more important lesson than is made at first to appear. The fact that green manure gave the largest returns of hay, was not due to its application in a green state, so much as from the fact that it being the droppings of only a few days before, it had *lost less of its most voluable constituents*—those contained in the *liquid portions*, by not being exposed in the yard to the washing rains and bleaching and drying winds, as most stable manures are by a large majority of our farmers. From experiments that came under my observation last summer, the details of which I have already published, and will not repeat them here, I am satisfied that one load of stable manure, either from cattle or horses, when preserved in such a manner as to retain all the liquid portions incorporated with and absorbed by the solid portions, *without waste and adulteration from exposure to the weather*, is worth four loads of such as is made in the ordinary way by nine-tenths of the farmers of this country. If manure is worth saving at all, the only proper manner in which it should be kept is in sheltered pits or barn cellars, so constructed and cemented as to be water tight, and if at any time, there should be an excess of water, let straw, muck, or in the absence of these, turf be added to absorb it. Manure made in this way will not be injured by any reasonable age, but will be found better than that which is applied in a green state. This fact, I think, is made somewhat apparent by the concluding paragraph in your statement, which relates to the application of the manure taken from the pits under the stables of Thomas Horsfall, Esq., in Yorkshire, England.

The result of the application of the ashes, as part of the experiment of Mr. Rogers is also remarkable. There is no application so variable in its results upon different soils as ashes, unless gypsum is an exception. The township in which I write (Southampton) was one of the earliest settled portions of this country. Lands here have been under cultivation for a period of more than two centuries, and in the earliest half of this period but little attention was paid to manure—until the soil would no longer produce without it. Then it was found that ashes produced the most marked results, such as are hardly equalled on soils in any other portions of the country, particularly in the crops of grass and grain. For many years numbers of vessels were constantly employed in freighting ashes from the large cities where soap-making was largely carried on. But it was found that after repeated applications of ashes upon the same soil it ceased to have the desired effect. Bones and other special manures are now largely used. On the limestone lands of Kentucky, particularly in the rich blue grass region, I have never been able to discover that ashes produced the least beneficial effect. These lands are remarkably rich in potash, and other inorganic as well as organic substances.

But to return to the more important part of the subject, viz., that of stable manure. Our farmers are slow to learn the most economical and valuable methods of preserving and applying this. If stable manure, saved in the ordinary way, is worth hauling upon the land at all, the liquid portions, and the employment of proper means to prevent the wash and waste by the action of the weather of the more solid portions are worth many times more, and in most of the older settled sections of the country will well pay the expense of building pits or barn cellars for its preservation. It is not well to build these immediately under the stalls, but at the end, outside, and protected by a roof. The gases arising from the pits under the stalls will not only seriously effect the eyes of the animals, and will endanger their general health, but will injure the quality of the hay stored above.

The experiments alluded to, which were conducted near this place last summer, where of a marked character. Several varieties of manure of the most stimulating kinds were applied to Indian corn, among which were fish, applied in the form of "fish guano," which produces immediate and remarkable effects upon this crop, and stable manure, *liquid and solid* combined, preserved in *brick water tight pits*. The crop of corn manured with the latter was at least thirty per cent. greater than that manured with the fish, while compared with the other kinds used the difference was still greater.

Sag Harbor, L. I., May, 1863. H. P. B.

[For the Country Gentleman and Cultivator.

SCOURS IN CALVES.

Young calves are troubled with scours many times from *local causes*. In such instances the very best and most effectual remedy is to *remove the cause*, instead of administering nostrums of some kind, which only *aggravate* instead of ameliorating their condition.

I will allude to a *few* of the many causes that produce scours in young calves, and then those whose calves are afflicted in this way, may perhaps be able to determine the real cause, and then they will be prepared to apply the true remedy.

If calves have the scours while they suck their dams, we may rest assured that it is in consequence of some local cause. Calves are very frequently confined in a small yard during cold and wet storms, with nothing but the fence or a few loose boards to protect them, and having no comfortable place to lie down. This is a very fruitful source of scours.

Young calves are often tied to the fence, or in one corner of a barn or shed, where they are confined in their filth from week to week, without necessary exercise or pure air. This is another very *certain* cause of scours.

When calves are reared by hand, their food is not always of the same temperature and quality. Sometimes it will be hot, and sometimes it will be cold, and sometimes a lot of bran or coarse meal will be mingled with their milk. Such things almost always produce scours.

There are some other things that will produce scours, but as a general rule the complaint may almost always be traced to one of these causes.

Calves need exercise; close confinement is very injurious to them; they are tender, cold storms and cold earth to lie down on affect them very seriously, when full grown animals, that have a huge mass of food in them, will sometimes experience no ill effects from such things.

Let calves have access to a clean, warm stable, and be permitted to run out when they choose in a clean yard; and let them not be fed too highly with coarse meal with their milk, and we shall not hear much about scours.

When calves are being fattened for veal they need a very clean and warm place, where they can have an abundance of fresh air. Then they will fatten rapidly.

S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

To Prevent Rats Eating Harness.

I saw an inquiry in the Gent. some weeks since, how to prevent rats from eating harness. Put salt plenty where they can have access to it, and they will not disturb the harness. I never knew them to disturb new harness. S. L. W.

OREGON AND HER AGRICULTURE.

OREGON is a State to which public attention has not as yet been turned in the degree which her attractions and importance probably merit. Overshadowed, on the Pacific Coast, by the gold mining regions of California, her development has been retarded, it is true; but she possesses natural advantages which sooner or later will doubtless call a large population to her borders, and build up within them a thriving and prosperous community.

These remarks are suggested by reading an essay on the subject, by W. L. HILL, contained in the Annual Report for 1862 of the Oregon State Agricultural Society, for a copy of which we are indebted to J. W. P. HUNTINGTON, Esq., of Oakland. The extent of territory comprised in our newer States is so vast, that their older settled sisters along the Atlantic seem to shrink almost into insignificance in comparison. Thus Oregon forms nearly a rectangular figure on the map, about four hundred miles long from East to West, and from 260 to 280 from North to South, and is considerably more than *thirteen times as large* as the State of Massachusetts. Although in a high latitude (between the 42d and 46th parallels) its climate is affected by the Pacific Ocean very much as that of Great Britain is by the currents of the Atlantic. Thus the climate of Western Oregon is moist, mild, and peculiarly uniform; and it is rarely necessary to feed stock for more than a fortnight, and frequently not at all during the whole year. Eastern Oregon, more remote from the influence of the Ocean, has a climate much resembling that of the upper Mississippi Valley, but not so cold. The following is given as the mean temperature at Astoria, Western Oregon, as compared with Albany, N. Y., and Dubuque, Iowa:

Mean Temperature.	Astoria.	Albany.	Dubuque.
Spring,.....	51.16	47.61	47.36
Summer,.....	61.36	70.17	71.42
Autumn,.....	53.55	50.01	50.34
Winter,.....	42.43	25.83	25.88
Whole year,.....	52.13	48.41	48.75

Thus far Eastern Oregon has not been tested very extensively as a grain raising country, but its immense rolling prairies and level plains are unexcelled for grazing purposes. The valleys of the Deschutes, the John Day, and Powder rivers are already attracting immigration. Within two or three years past gold deposits have been discovered in Eastern Oregon surpassing in richness many of those in California. Mining has been going on for some time on the Salmon and Oro Fino placers, and along the Powder and John Day rivers, and the estimate is made that $8,000,000 had been taken out from these mines up to September 21st, 1862, and that the total product to the close of that year was probably $12,000,000. "These mines will make farming in Eastern Oregon highly profitable. Stock, also, will find a ready market at remunerative prices. Persons cultivating the soil, will find their employment as lucrative as that of any other class; and nothing will be required of them but a good degree of industry, to secure plenty and prosperity."

Reverting now to Western Oregon, we find on the Southern border the Rogue River Valley, well watered by mountain streams, broken in surface, much of it more or less thickly timbered, and a superior stock raising country, with Jacksonville, a mining town of some importance, as its principal place. Then comes the Umpqua Valley, also of rolling and hilly land, but with its tributaries watering a large and fine agricultural country. Next to this is the Willamette Valley, separated by a high mountain range from that of the Umpqua, and destined to become the garden of the State. "This valley is mostly smooth prairie land, large bodies of it undulating, but not hilly, interspersed at intervals never greater than a few miles, often much less, with streams of various sizes, flowing in across the Valley from the mountains on either side. Ranges of low hills covered with oak timber are common throughout the Valley." The comparative importance of the region drained by the Willamette will better be understood when we add that its present population is about 39,000, or nearly two-thirds that of the whole State (now about 60,000.) In this valley are Portland, a seaport, although at a considerable distance from the ocean, and second only to San Francisco in its commercial importance on the Pacific coast, Salem the capital of the State, Albany, Corvallis and Eugene farther up the Willamette river, and Oregon City at its Falls, which give power enough to render this probably the manufacturing center of the State.

"If Oregon has a speciality," says the essay before us, "it is her pre-eminence as a wool growing country. Until very recently, little attention has been paid to the matter of sheep raising; but it is now becoming one of the staple interests of the State. Sheep thrive better here than in any other State. Disease among them is exceedingly rare. They increase here faster than in the East, and the wool is of excellent quality. Only one manufactory of woollen goods is yet in active operation. This is located at Salem. Another is in course of construction in Linn county. The wool clip of the State in 1861 amonnted to 444,000 pounds. That of 1862, (estimated by Mr. L. E. Pratt, of the Willamette Woollen Manufacturing Company,) is 344,000 pounds. The difference of amount is owing chiefly to the losses of last winter. The average price of wool in 1861, was 18 cents per pound; in 1862 it is 20 cents. In respect to the quality of Oregon wool, Mr. Pratt says 'there is no inferior wool grown in the State.' When the Eastern papers quote the price of 'Oregon burr wool,' they mislead dealers to the prejudice of this State, as there are no burrs in the country—they probably refer to wool grown in California, and are imposed upon by dealers of that State.

"It would seem invidious to discriminate in favor of any portion of the State of Oregon, in respect to its salubrity. Everything that nature could do to render a country perfectly healthful, has been done for this State. The mountain air, not less than the mountain water, has a vivifying influence; and the gentle breezes of summer, coming fresh from the sea, are a pleasant and effectual preventive against all the violent diseases ordinarily to be feared in dry and sultry regions.

"It may now be asked where and on what terms can land be obtained in Oregon? In the western portion of the State, that is in the Rogue River, Umpqua and Willamette valleys, the best land is occupied. Farms can be had, however, in these valleys, for from five to ten dollars per acre, according to location. There is ample room and settlement is invited. As good agricultural land as there is in the world, can be bought for eight dollars per acre in any of these districts.

"The land in Eastern Oregon is for the most part vacant. Homes may be obtained by simply occupying them under the provisions of the Homestead law, which will take effect the first of January, 1863; or by the provisions of the Pre-emption law. These lands are not yet surveyed, but no difficulty need be apprehended on this account. The immigrant has nothing to do but comply with the conditions under which he takes, and his title will be secure to a home for his family, which even the rapacity of pitiless creditors cannot wrest from them, and which in return for moderate industry, will enable him always to have enough and to spare of the good things of this world."

Best Method to Destroy Apple-Tree Worms.

Take three pints of soft soap in a pail, pour on hot water to dissolve the soap, and then fill the pail two-thirds full of water; take a light pole eight or ten feet long, cut notches in the small end, then wind around a piece of thick, coarse cloth, several times—let it project over the end of the pole five or six inches. Now tie it firmly with a large twine, so that it will not slip off; thus you have the whole materials to commence warfare.

As soon as the worms appear in their webs, take the pail of soap-suds and swab, dip into the suds and apply to the nest of worms, wipe it all off, and thus proceed over the trees. This should be repeated at least every other day, as the eggs do not all hatch at once. A little later, worms will appear on the body of the tree and large limbs, without any web, but in clusters on the sun side of the tree. These may be instantly killed by means of the swab, applying the soap-suds; it will kill them nearly as quick as fire. If the trees are large, have another pole sufficiently long to reach the top of the trees; but the short pole will be long enough to do the most of the work. The best time to kill the worms on the body of the tree, is from ten in the morning to three in the afternoon; they are then sunning themselves in clusters.

Strict attention must be paid until the worms wind up, as the eggs continue to hatch, and sometimes the worms come from the woods, or a neighboring orchard that has not been attended to—they have eaten all the leaves from that, and then they will come like an army; but if attention is given, they may be soon destroyed by the soap-suds. Some persons neglect to kill the worms; they have no fruit, and the trees soon die.

I have found by many years' experience, that this method to kill apple-tree worms, is the cheapest, quickest done, easiest, (no climbing the trees,) and most effectual, for all the soap-suds wets are sure to die in a few moments.

Clinton Co., N. Y., May 7. JOHN T. ADDAMS.

EXPERIENCE IN ORCHARD CULTURE.

Messrs. Editors—I have been reading your article on the culture of orchards, and write to give my testimony in favor of cultivation.

I have an orchard containing 50 apple trees that was set out in the fall of 1857, and has been cropped with potatoes every year except one (when I planted it with beans.) The growth has been about two feet each year except last, which was eighteen inches. Some of the Baldwin trees had from two and a half to three bushels of apples each, windfalls not included.

One of my distant neighbors bought one hundred trees of the same lot as mine, and set them in a sod, and the consequence is the trees have not made two feet growth up to this time, and what is worse, a large number of them have died. Last spring I set out ten Rhode Island Greenings. Seven of them were set in a potato patch and three in sod along the edge of said potato patch. Those set in the sod made from 4 to 6 inches growth, the others two feet six inches. I also set some plum trees at the same time, some in sod and some where they have been cultivated. The former made from 4 to 9 inches growth, the latter from 4 to 5 *feet*. P. Sutton.

Luzerne Co., Pa., May 7, 1863.

BUGS ON VINES.

Every spring numerous inquiries are made how to protect vines from bugs. I am not troubled with any. Whether this is accidental, or the result of my practice, I wish the readers of the Gentleman to determine this spring. When a boy of 10 or 12, I had my little garden under my own care. My grandfather taught me then if I wished healthy vines, to soak my seed from 12 to 24 hours in wood-soot and water.

After having been away from the farm for some years, I am, for the last four years, back again, and remembering the advice given me when a boy, I have soaked my melon and cucumber seed in soot and water, and with me the result has been healthy and productive vines, entirely free from bugs. Buckeye.

DRAINING LEVEL LANDS.

Eds. Country Gent.—The question is asked in your paper of 16th of April, how level land can be drained. The answer is, find a place lower. Now that is not always practicable. I will tell you what I did in 1841. I owned a piece of land on Farm Hill, one mile south of the city of Middletown. On the land there was a basin that received the water of fifteen to twenty acres, and consequently nothing on about three-quarters of an acre grew, but bull-rushes and the coarsest kind of grass. I dug a well in the lowest place until I came to living water. I then filled it nearly full of small stone, and turned the water in to the well by open drains. The land has been sufficiently dry to produce a heavy crop of first rate grass ever since, without plowing or manuring.

I would say to Inquirer, dig a well in the most convenient part, down to living water; then dig a sufficient number of drains leading into the well, to dry the land. The well may be stoned to within four feet of the surface, and a flat stone placed over it, or it may be filled with stone. Either will answer a good purpose.

ASA HUBBARD.

N. B. The drains are to be covered.

KICKING COWS.

Messrs. Editors—You publish in last number of Co. Gent. (p. 289) the way a correspondent of the N. E. Farmer breaks a kicking cow. To me it seems to be quite a difficult operation, requiring a man to be considerably quicker than lightning, and at least *some* stronger than a cow. As few men possess these qualities to that extent, I think his plan is not practicable generally. Most every one has a remedy. Some draw their heads up so high they can hardly stand on their fore feet. Some strain a cord around them so tight they can hardly breath. Some take up their fore foot and put a strap around their knee, a pretty good way to prevent their kicking, but not to break them. Others try various other plans.

I have had considerable experience with kicking cows, having kept a milk dairy of 40 to 50 cows for several years, and being often obliged to purchase such cows as I could without regard to their characters in that respect, have tried a great many ways to prevent and eventually to break them of kicking, but have never found but one effectual plan. That is, after having fed them two or three months all they would eat, to cut their tails off. Cut their tails off, something as the boy did his dog's tail, a little back of the ears. Lockport.

WATER FOR STOCK AND FAMILY USE.

Messrs. Editors—Much valuable information on the above subject has been published in former years in the Co. Gent., and believing that the matter was worthy of further discussion, I intended before now to have contributed my mite to the general stock, but not remembering that I have ever done so, conclude that the intention has shared the fate of many other things that may be done at any time. Not that I expect to advance much that is new to men of experience and observation, but with the hope of giving some of the many young farmers

a lift, and lessening in some degree the labors of their most laborious occupation. There are thousands of farms upon which the sources of supply of that necessary article might be very much improved, and in many cases multiplied at a cost that would pay. The subject was brought forcibly to my mind not long since, by seeing a farmer in a half frozen swamp, with shovel and axe endeavoring to open a place in the mire where his cattle might quench their thirst; and as there are too many of that sort of watering places, I propose in this article to give some directions for their improvement.

As people generally prefer facts to theory, I will give a description of the method I adopted, and its results in a similar case. The premises consisted of about three rods in length of the border of a swamp, purchased by some former owner of the land of his neighbor, for the sake of the water that oozed out of the higher ground most of the distance, though not in much quantity in any one place. Consequently the whole surface was a slough, and a hole dug anywhere would soon fill with water or mud, except in time of drouth, when there was little or no water to be had. We used to spend much time in cleaning out the pits, but to little purpose, as the cattle evinced a great penchant for sliding into them from the upper side, and generally kept them full of filth. To cure the evil, I commenced just above the swamp and dug a pit about ten feet long by two and one-half wide, and from each end of it a ditch obliquely up the hill, eighteen to thirty inches deep and about two rods long. The hill rises about eighteen inches to the rod, and the ditches have nearly as much rise. The water was found to come into them on their upper sides through their whole length. I then built in each end of the pit a pier of stone about four feet high, leaving a space three or more between, and plumb on all sides except the outer ones, which were sloped considerably. Then lined the front of the pit with a thin stone fifteen to eighteen inches deep, and the back-side in a similar manner to the top of the piers, and on top of all placed a heavy stone, flat on the under side and flush with the front side of the piers. The ditches were then partly filled with cobble-stones, and finished off with earth; and the walls also were banked up on all sides except the front, and turfed over, so that from the rear it had the appearance of a grassy mound, but in front it appeared like a stone fire-place, with the water-pit at the bottom.

The reason for adopting this particular form of wall was to make it impossible for the cattle to step into or otherwise befoul the water, and the embankment was to prevent the surface water from above washing dirt into the spring. Well, the result, I confess, greatly exceeded my expectations. There seems to be at least three times as much water as before, and although there have been several dry seasons since, yet there is always an abundant supply, and I have never yet known it to freeze over. No cleaning out is needed, unless the leaves should blow in, and the ground is dry and firm on all sides, except where a sparkling stream of pure water is discharged from one corner of the spring.

The farmer above mentioned admits that corn does not thrive well near the border of his swamp, and says that it is because the land is too cold, but don't believe the reason why it is so is because it is full of cold spring water to within from one to three feet of the surface, or that with a properly located drain he can have a most beautiful watering place a rod or more above the swamp, and if he chooses, carry off the surplus water in a covered drain, so that his cattle, instead of wading through muck, or breaking their necks on ice, need not so much as wet their hoofs in going to water. But it is true, nevertheless; and the labor he expends in a single season in opening muck holes to get water for his stock, would be more than sufficient for all I propose, to say nothing of the saving of manure and the safety and comfort of his cattle. But this article is already too long. With your approbation, Sirs Editors, I propose to continue the subject in one or two more articles. H. V. Welton.

Waterbury, Ct.

CURING CLOVER HAY.

Messrs. Editors—In the summer of 1861, having a field of red clover to cut, I concluded to try an experiment in making it into hay, or rather to vary the process which I generally take in making and housing clover hay.

My practice for some years past has been to cut my clover when about one-half of the heads were getting out of the blow, or beginning to turn brown. If it is cut when there is no wet in it, I let it lie in the swath until it is wilted, and then put it into cocks, using a fork to do it with, and taking small forkfuls in making them; have the cocks as small on the ground as will stand well, and not make them very large. The next day, if the weather is favorable, lay the cocks over in the following manner: With a fork take off the top of the cock and lay it on the ground, then take off another forkful and place it on the first one, and so on until the whole has been laid up and the cocks have been turned bottom upwards. In this way the greener parts are placed on the top and outside, and the whole left loose so that the heat and air will circulate through it, and carry off the moisture. The third day open the cocks and let the hay be exposed to the sun for a few hours, and then put it in the barn.

Although this method of curing clover hay is a great improvement on the old method, (which was to spread out and dry it like fine grass,) yet in this way there is some loss by the leaves and heads becoming so dry as to shell off.

The way which I designed to make this field of clover into hay, was to cure it entirely in the cock, not to open it at all, but to lay the cocks over from day to day, until the hay was suitable to be put in the barn. The clover was cut in the morning, in the afternoon it was put into the cock; the next day in the afternoon the cocks were laid over. The next morning, (the third day) the prospect was that we should have showers before noon, and rather than have this clover wet I decided to put it into the barn, and as soon as the dew was dried off commenced carting it in. Although this clover was well wilted, and some of it partially dried, yet at least one-third of it appeared to be as green as when it was first put into the cock, and I expected that it would be damaged some by putting it in so green, but probably not any more than by leaving it out and having it get wet.

The clover was all put on a scaffold near the barn door, so that when the door was open it would receive the benefit of the air or wind that might come in. After a while the scaffold was filled with other hay. Not having occasion to use all my hay the next winter, this scaffold remained until the past winter, in which I have fed it out. As before stated, I expected when I came to feed out this hay, to find it mow-burnt, musty and perhaps mouldy, but instead of this I found all of it bright and sweet, and as well cured in every respect as any hay could be; all of the heads and leaves were on the stalks, and the whole was eaten by my stock with as much relish as any hay that I have, and it was eaten up clean, stalks and all.

The summer of 1862 I cured all my clover hay in the cock, but it stood out longer in the cock before it was put into the barn, than that cut in 1861. All that I have yet fed is as bright and as sweet as I want hay, and judging by the way that my stock eat it, and thrive on it, it is worth as much as any hay that I have.

From my own experience in curing clover in the way mentioned, I am satisfied that there is a saving of fifty per cent. over the way practised by many, that is to spread out the clover and dry it until the stalk is dry. By this way a large portion of the heads and leaves fall off and are lost, these being the most valuable part of the hay when cured in this way. Especially is this the case when the clover is allowed to stand until it is over ripe before it is cut. C. T. Alvord. *Wilmington Vt.*, 1863.

THE CULTIVATOR.

ALBANY, N. Y., JUNE, 1863.

☞ At the last session of the Legislature of this State the sum of $1,000 was appropriated to pay the freight on articles manufactured in the State of New-York designed for Exhibition at the Show at Hamburgh in July. We are requested to call the attention of Manufacturers to the fact that such is the case. As the Law provides for the disbursement of the money under the direction of the State Agricultural Society, the President and Secretary were appointed a committee for the purpose, and after conferring with the other members of the Board at its last meeting, they decided to make arrangements with Messrs. AUSTIN, BALDWIN & Co., New-York, to pay the freight on such articles as may be entered, *from the place of shipment*, in whatever part of the State it may be situated, to Hamburgh and back, in the order of entries, to the extent of the appropriation named ($1,000.) These arrangements having been completed, Messrs. A., B. & Co., will at once issue a circular giving all requisite information, which may be obtained by addressing them as above.

☞ A number of farther movements in Improved Stock have lately come to our knowledge. Mr. THOS. S. LANG of Vassalboro, Me., is entering into operations in earnest as a Short-Horn breeder, having just procured, in addition to previous purchases from other sources, the following noted cows which were all imported by SAML. THORNE, and for several years have done good service as breeders at Thorndale: "Lalla Rookh," "Peri," "Victoria 26th" and "Aurora," with a bull calf from the last, sired by Royal Oxford, and the bull "Matadore" by 3d Duke of Thorndale—in all six head.

Capt. HILTON of New-Scotland, Albany Co., has purchased from Col. CHARLES S. WAINWRIGHT, The Meadows, Rhinebeck, the Devon bull "Sachem," calved Oct 8, 1858, by Horicon out of Helena 2d. This is from some of the best Devon stock that has been imported, and will add to the reputation and value of Capt. Hilton's herd. Capt. H. has also lately sold the bulls "Empire 4th" to Mr. Charles Wentz of Chemung Co., and "Empire 5th" to Mr. Walter Cole of Batavia, Genesee Co.

Attention may here be appropriately called to the Advertisement of the Ellerslie Herd of Short-Horns, of Hon. WM. KELLY, which appears in another column this week. There are few herds in the country which present so many inducements to intending purchasers. Catalogues may be seen at this office. Another new advertisement of a portion of the Short-Horns and other improved stock at Waldberg, from Hon. A. B. CONGER, also appears this week.

☞ In visiting "Highfield Farm," near West Chester, Pa., the residence of D. B. HINMAN, Esq., in 1861, we noted a case of unusual precocity in his herd of Alderneys, which was widely copied, and is still in circulation among the papers. It was that of an Alderney heifer which had had *twin heifer calves* when she was herself only *thirteen months and twenty days old.* Mr. HINMAN now informs us, under date of the 7th inst., that this cow has given birth since our visit, to a second pair of twins and one single calf—making a *total of five calves before she was herself three years old.* As her oldest calves have also bred, she is moreover the grand dam of two calves—or, in other words, has already had in reality *seven descendants.*

Mr. HINMAN thinks his Alderney is rather ahead of the Short-Horn noted on page 284. Both are remarkable cases, and the former, so far as we are aware, quite without a parallel.

☞ The Course of Agriculture in California is illustrated very clearly in an interesting table of its Exports during nine years past, lately compiled for a San Francisco newspaper. From this table we are enabled to derive the following facts as to a few of the leading articles of Farm Production:

GRAIN AND FLOUR EXPORTED FROM CALIFORNIA FOR NINE YEARS.

	Barley—Sacks.	Wheat—Sacks.	Flour—Bbls.
1854,	15 000	4,967	58,115
1855,	73,160	66,413	115,716
1856,	4,884	22 840	77,260
1857,	182 602	3,781	9,005
1858,	182 570	———	16,330
1859,	154 069	131,540	25,274
1860,	133,495	1 136 096	114 936
1861,	373 852	1,350 783	170 563
1862,	98,239	720,378	105,857

This shows a wonderful variation, the ups and downs being very sudden as well as large. In the products of stock farming, it will be seen however that the progress effected has been much more regular and certain:

HIDES, TALLOW AND WOOL EXPORTED FROM CALIFORNIA FOR NINE YEARS.

	Hides—Number.	Tallow—Pkgs.	Wool—lbs.
1854,	43,000	———	175,000
1855,	112,770	539	360 000
1856,	147,839	1,700	600,000
1857,	170,447	1,068	1,100,000
1858,	168 953	918	1,428,551
1859,	151,364	1,577	2,378,250
1860,	200 250	2,125	3,055,525
1861,	181,166	2,192	3,721,998
1862,	321,583	2,351	5,990,300

☞ The result of our inquiries in 1859 in various parts of Great Britain satisfied us that at that time the Mangold Wurtzel was in growing favor as a root crop, as compared with the Turnip; and we were almost everywhere told that the former was constantly gaining and the latter losing in proportionate extent of culture. But the result of the two past seasons must have exerted considerable influence to turn the tide back again to the old stand-by of the English farmer—the Swedes and their congeners. Both in 1861 and 1862, says the Mark Lane Express, "the turnip crop has been a splendid one, whilst the mangold wurtzel was as inferior. The latter, in fact, appears either to have degenerated or to require some change in its mode of cultivation or in regard to manure, in order to bring it back to its former state of efficiency." In another article the better success of the turnip is ascribed "to the increasing use of *superphosphate of lime*, which causes so rapid a growth in the first stage of the existence of the plants, that they speedily assume the rough leaf, and thus avoid the destructive attacks of the fly." And the great importance of giving a good start to the plants by the use of such fertilizers, should be borne in mind by those who are intending to "try a few roots" here, the present season. We are informed by SAMUEL THORNE, who has had much experience in growing turnips on a scale of considerable extent, that he is better pleased with *simple ground bone* as an application, than with superphosphate of lime, the result of a careful trial with amounts of both, of equal pecuniary value, having shown as large a product from the bone as from the superphosphate, while its effect

upon succeeding crops is undoubtedly the more lasting of the two. But ground bone cannot always be obtained, and where this is the case a superphosphate should certainly be used. Several leading manufacturers have had their cards in this paper during the past month or two.

☞ There never was a season when Farm Machinery was in more general demand over the country, and perhaps never one in which Manufacturers seemed less inclined to advertise their latest and best inventions to the public. Are they already receiving orders to the full extent of their capacity to supply them, or is there a lack of capital or enterprize somewhere? Sales are made this year for cash more readily than ever before. It might be a good lesson for our Implement and Machine makers to take one or two foreign agricultural journals—the London Mark Lane Express, for instance—and note the example set them by their brethren in trade abroad, whose full and largely illustrated advertisements weekly crowd the columns of all the farmers' papers.

☞ A correspondent in St. Lawrence county, who is a hard working and practical farmer, and, as he says, "a great friend of the COUNTRY GENTLEMAN," gives us a spirited picture of the contrast between the economical wintering of animals and the systematic production and management of the food they consume, on the one hand, and the wasteful and costly way in which these operations are too often conducted, on the other, by those who have no disposition to profit by the teachings of "book farming." His neighbors think, he says, that he "farms it not to make money," but now, after the hardest season that he has experienced in thirty years, with all crops poor, he is coming out in the spring with "six tons of good hay, two hundred bushels of roots, one hundred of potatoes, and enough to live on until another harvest." "Our farmers in St. Lawrence," he says, "are having hard times; fodder is very scarce, with cattle dying on account of the scarcity, and our farmers will have to take the COUNTRY GENTLEMAN to learn to be economical with their fodder, and keep no more stock than they can winter. One of my neighbors made me a call while I was plowing: 'WALRATH,' said he, 'I don't know what I shall do for my cattle—my fodder will not last a week.' I told him I thought I had two tons of hay more than I should want. This neighbor is one that thinks he is not able to pay for the COUNTRY GENTLEMAN, and that it will only do for 'gentleman farmers.' I have asked a hundred such farmers to take your journal, and received the same reply. These farmers fodder their stock on the ground in the mud, and let them run over their farms and in the highway—pronounce a curse on the cattle law—say that it will not pay to cut corn stalks or straw for stock—'let them do their own cutting'—and these very men are now paying $25 per ton for hay, $1 per bushel for corn and 75 cents for oats—and finding fault that the long winters take all they can earn in summer to carry them through the year. How long will it be before this class of farmers are willing to learn a lesson? There was no excuse for our keeping more cattle than we could winter. Stock buyers were never so plenty as during the past season, although they offered but poor prices it is true. I was offered last October, $12 for two yearling steers, which I kept and sold last week to the butcher for $90."

Our correspondent also mentions that although he is in his 57th year, and for ten years back has not done much plowing, he determined that day to act on "some good advice given to farmers in a late number of the COUNTRY GENTLEMAN, to make an extra effort to raise an additional amount of produce this season;" and, notwithstanding a badly cut finger, in cutting the roots for his team that morning, had plowed "full two acres of green sward, rather strong soil," up to five in the afternoon—having in mind the important fact that "*good example* exerts a most powerful influence." Considering that he wrote his letter to us the same evening, we think our friend may certainly have retired to rest that night with the consciousness of having done at least one good day's work this spring; and we have no doubt, with the same spirit guiding subsequent efforts, that his farm will again produce enough to prevent any danger of the starvation of *his* stock when another winter comes around.

AGRICULTURAL COLLEGES.—Under the act donating lands to the several States and Territories for the establishment of Agricultural Colleges, the following States have accepted the conditions in the order named:

1. Iowa—To select land within her own limits.
2. Rhode Island—To locate with scrip.
3. Minnesota—To select within her own limits.
4. Kansas—To select within her own limits.
5. Illinois—Part selection, part scrip.
6. New-York—Scrip.
7. Kentucky—Scrip.
8. Vermont—Scrip.
9. Wisconsin—To select within her own limits.
10. Pennsylvania—Scrip.

Thirty-five thousand pieces of scrip, of one quarter section (160 acres) each, will be issued to these States at once. This statement is given in the newspapers—we do not know whether the list of States which have already accepted the donation of Public Lands from Congress, is complete or not.

STRAWBERRIES BY MAIL TO TENNESSEE.—We make the following extract from a letter from Dr. WOMBAUGH, dated Nashville, Tenn., May 13, 1863:—"The COUNTRY GENTLEMAN, the CULTIVATOR, and RURAL AFFAIRS, are responsible for my speculating in a small way in strawberries. Seeing the advertisements of Mr. PARRY and CHAUNCEY MILLER, I thought I would send for 50 Triomphe de Gand and 50 Austin plants; in due time they came to hand through the post-office in good condition of course, for those gentlemen understand putting them up. I treated the roots of each plant to a liberal coating of thin slush-mud, made from rich garden mold; and, spreading the roots as nearly in their natural position as possible, planted them about the same depth as their original growth, and watered them with a sprinkling-pot every evening for a week, so that the moisture of the earth would attract the heavy dews; the result is that I have only lost two plants; the others are all growing finely, and give fair promise for the future, though received late and planted in May, which is pretty hot in Nashville. My neighbors think me *lucky*, but I think any one who will treat strawberry plants in that way will be *lucky*. Old fogies may say, that may do for a few sets for a garden, but for the field there is too much labor; I answer with Franklin, 'whatever is worth doing, is worth doing well,'—it will doubtless pay better than empty spaces."

☞ Mr. W. N. PERRY of Rushville, Yates Co., has lately purchased from the herd of Mr. C. K. WARD, Leroy a Short-Horn bull calf, by Mortimer, 4181 A. H. B, bred by R. A. ALEXANDER of Kentucky, and out of the cow Bright Eyes 5th. Mr. WARD'S advertisement of other bulls for sale, appears elsewhere.

☞ Mr. J. H. BIXBY of Royalton, Niagara Co., N. Y., formerly an associate editor of the Rural New-Yorker, and who has for a number of years past been a regular contributor to our columns, died at his farm near that place, on the 14th April, after a brief and severe illness of only four days. "For two or three months previous," says the letter announcing to us this melancholy event, "his health had not been as good as it was during the first part of the winter, and we hoped, as spring advanced, he would get better—but how vain are all earthly hopes—'Death loves a shining mark,' and he has taken one who will be sadly missed, not only in his own home, but by all who knew him. He was a man of firm, religious character, upright and honest in all his dealings, a faithful friend, a noble, kind, and loving husband and father." Mr. BIXBY was still in the prime of life, and his loss is thus a severe blow to his surviving family, to whom we tender our sincere condolence in their deep affliction. We shall miss the familiar hand of our departed friend from among the number of our correspondents, and our readers will miss the plain and instructive articles he has from time to time prepared on the various subjects of farm-crops and practice.

☞ After a long life of usefulness, Dr. WILLIAM DARLINGTON of West Chester, Pa., died at his residence in that place on the 22d ult., in the 82d year of his age. He was chiefly known abroad as a botanist, but enjoyed at home a high reputation in his profession, and as a public spirited and much respected citizen. His "Flora Cestrica" first appeared in 1826, and had passed through several editions—from the first establishing for its author a leading position among the few Americans who have devoted themselves to this important branch of science. Until the close of his life he continued more or less active with his pen, and passed his old age in a calm and studious retirement, devoted to his favorite investigations in literature, science, and local history, and frequently contributing articles, especially of the last named description, to the West Chester papers. He was a gentleman of the old school, and betrayed his fondness for classical reading in the scholarly style in which he wrote, as well as in conversation and in the dignity and urbanity of his intercourse with others. The most important of his works in an agricultural point of view, was the Agricultural Botany, or "Farmers' Flora," as he styles it in his preface, which first appeared, we believe, in 1847, and an enlarged edition of which, with additions by Prof. THURBER, has been published within a few years past, under the title of "American Weeds and Useful Plants."

☞ We have heretofore suggested, as an experiment worthy of trial, especially by local Agricultural Societies, the holding of Spring Shows of Breeding Stock—the spring being the time when there should be the most interest taken in the subject, and when, with proper effort, the most may be done to secure the introduction of improved blood. We now note a statement that an exhibition, which seems to have been of the kind referred to, was held by the Delaware State Agricultural Society, at the city of Wilmington, April 22d, but we have no particulars at hand. A correspondent also sends us the following account, from Lee, Berkshire co., Massachusetts:

We have to-day held in this town an exhibition of breeding animals. It was originated with the view of presenting to the farmers, at the time when they need to decide on the line in which to improve their stock, specimens of the different breeds. There were present several fine horses, with and without pedigrees, and three bulls representing the Short Horn, Ayrshire, and Devon breeds. We think that for a little town we are doing a good deal in the way of improvemont of stock. The Short Horn was not thoroughbred, but is a descendant of one of Mr. Thorne's fine bulls. He was coming four years old in June, and weighed 1902 lbs. The Devon was Huron, who took the first premium as a two year old at your State Fair in Albany in 1859. He weighed 1740 lbs., and was universally admired for his well knit and symmetrical form. The Ayrshire was Young Cardigan, bred in Ayrshire, and imported by our State Board of Agriculture. He was a good specimen of the breed, and was very much liked. He weighed 1420 lbs.

I believe there are no thoroughbred Durham cows or bulls in our town, but both Ayrshires and Devons are now bred pure here.

The attendance was good, and the affair proved a success, and it is to be hoped it will be repeated every year. We should like to hear from other towns which have tried the like experiment. R. N. *April* 27, 1863.

☞ "A Manual of Flax Culture and Manufacture, embracing full directions for Preparing the Ground, Sowing, Harvesting, &c.," as already advertised in our columns, has been published by D. D. T. MOORE, Esq., of the Rural New-Yorker, Rochester, N. Y. It contains:

1. A Practical Essay on Flax Culture. By WILLIAM NEWCOMB, of Rensselaer County, comprising in a little more than three pages the culture and preparation of Flax for market.
2. Flax Culture and Manufacture in the United States and Great Britain. By N. GOODSELL of Oswego County, in a series of articles prepared for the Rural New-Yorker—10 pages.
3. Report on Flax and Machinery for making flax cotton, by the Flax Committee of the New-York State Agricultural Society—10 pages.
4. Hemp and Flax in the West: amount grown, modes of culture, preparation for market. By CHARLES D. BRAGDON of Illinois—9 pages.
5. The structure of Textile Fabrics. By JOHN PHIN, Author of "Open Air Grape Culture"—4 pages.
6. Articles on Soil, Seed and Culture, by S. EDSON, Flax Growing in Seneca County, by S. WILLIAMS, Flax as a Domestic Institution, by H. T. BROOKS, and Botanical descriptions of Flax and Hemp, by Prof. C. DEWEY.

The whole constitutes a neat pamphlet of 48 pages, illustrated with a number of appropriate engravings. Price, 25 cents.

☞ The Farmers' Club of Hadley, Massachusetts, held their Annual Market Fair at that place, April 22d. Cattle and horses were exhibited in considerable numbers, and passed upon by committees appointed for the purpose. Mowing machines, seed grain of various kinds, potatoes, etc., were also shown. The attendance is said to have been larger than usual, and quite a number of sales were effected, although the effecting of sales does not seem to have been by any means the only object of the meeting. In the evening a festival was held at the Town Hall, at which the Farmers' Clubs of Northampton and Easthampton, were present as invited guests, with their wives and daughters. Such occasions are both profitable and pleasant, and while our space will not permit us to go into the details, which are mainly of local interest, the example is one worthy of being placed on record for the imitation of similar clubs in other places.

CHEESE FACTORIES.—The greatest interest is manifested throughout this county in the making of cheese, which pays the farmer a great profit at the present high price; and the building of factories for the manufacturing of cheese is rapidly in progress throughout the county. This will prove very beneficial to small dairies that are not large enough to manufacture cheese of saleable size for the market. By taking the milk to the factory, the man with five cows will get in proportion to the man that has fifty. In my next will give you the nnmber of the factories in this county, and the number of cows belonging to each. J. E. MORGAN. *Oneida Co., N. Y.*

Inquiries and Answers.

[Particular attention is invited to this column, in which Inquiries on all subjects within the scope of this Journal will find a place. While we shall continue to reply to such of them as circumstances will permit, we ask our readers to furnish any facts or experience which they may possess, in answer to the queries here proposed, whether we respond to them ourselves or not.]

SCOURS IN COLTS.—Please state through the Co. GENT. a cure and prevention of the scours in young colts, for I have known several valuable colts to die with it. A SUBSCRIBER. *Indiana.* [Young colts frequently suffer as mentioned, in consequence of the bad milk of the dam—the latter resulting from a change in and deficient food. Mares that have been well kept and fed in stables, and then turned out to grass to take care of themselves, often suffer from a want of shelter and nourishment, and impart the effects of this treatment to the young colt. The best way to restore the latter is to take good care of the former. Provide shelter, give ground grain—cooked if there is much disease, and let the colt partake of a portion of the food. Turn out to grass only an hour or two a day at first, and gradually increase. If there is much diarrhoea it may be well to mix with the cooked meal a small quantity of ginger and powdered slippery elm bark.]

CARROTS.—In the Co. GENT. of Dec. 25, "W. J. P." inquires if "any of its readers has had experience in leaving carrots in the ground until spring, the same as parsnips?" Last fall it being late when we dug our carrots, we left a few rows, and plowed a furrow each side of the row, throwing the dirt on the carrots. This spring on going to examine them, found them completely rotted. I should say that before we dug them for winter use, the ground had been frozen a couple of inches deep, but they kept good. Have come to the conclusion that carrots ought all to be dug in the fall.

Readington, N. J. J. F.

SQUASH BUG.—Can you or any of your readers tell me, through the columns of THE CULTIVATOR, a good remedy for the destruction of the pumpkin bug? Last year they attacked my Hubbard squash vines in multitudes, and totally destroyed them. Description—it is a large black bug, sharp edged, and in fact the *smell* is sufficient for an outline. J. T. B. *Cumberland, Md.* [We have not found anything better than to frequently examine the plants and kill all the bugs to be found. If this is faithfully followed two or three times a day for some days, the insects will become rare.]

SORGHUM.—Answer to inquiry in Co. GENT., March 26. One quart of good ripe seed is sufficient to plant an acre in hills three and one half feet apart each way, three or four seed to a hill or in drills that distance apart, a foot from plant to plant. The earlier it can be planted the more profitable it will be. The above named quantity is plenty for an acre if the cane is to be manufactured into syrup. For fodder I think more seed would be needed. J. F.

Readington, N. J.

CHURNS.—I would like to inquire which is the best churn you know of with regard to ease of making butter, also ease of cleaning, some being very objectionable in this respect. P. O. *Racine, Wis.* [For a simple churn, we prefer Kendall's (rotary motion given by a crank,) which turns very easily, and is readily cleaned. A more perfect one is the thermometer churn, which is nearly the same thing, with the addition of a provision for controlling the temperature.]

AMALGAM FARM BELLS—Do Bells of this composition give satisfaction? Are they equal to that of the ordinary brass bells? JOHN JOHNSTON, after a year's experience, might be able to say whether they are just the thing for our farmers. B. A. *Rock Spring, Pa.* [We have heard both JOHN JOHNSTON and several other friends who have tried them speak so highly of the Cowing Steel Amalgam Bell, that we do not hesitate to commend as being "just the thing" exactly, both in price and quality. The prices range as follows: 15 inch diameter, $6; 16 inch, $7; 18 inch, $8; 20 inch, $9; 23 inch, $15,—and we will cheerfully undertake to fill any orders that may be sent us accompanied with the cash.]

COOL CELLARS.—Nearly all cellars are too warm and damp for wintering bees or keeping fruits with the best success. How can I obviate this difficulty and yet have my cellar entirely free from frost? W. BRADFORD. *St. Lawrence Co., N. Y.* [Double cellar walls (with an interposed space of air) lessen dampness, as well as heat. The same result is secured by paving and cementing the bottom with water-lime, and a good floor thus obtained.]

OSIER WILLOW.—I wish to learn all I can in regard to the raising of the Osier Willow. Please give me some information in regard to planting, &c., and also the price of cuttings? E. W *Port Huron, Mich.* [The Osier is very easily raised from cuttings, made about a foot long, and set within an inch or two of their tips, into mellow rich ground, trodden compactly about the cuttings, especially at the lower part. The soil must be well cultivated for a year or two. We cannot give the price, but the cuttings may be had very cheaply of those who raise them, and of most nurserymen.]

FROST AND ITS EFFECTS.—Will you please explain to me how frost and moisture act upon posts, stones, &c., in the ground, causing them to *heave* to the surface. Also is there any secure manner for setting posts in wet ground. W. B. *Louisville, N. Y.* [The expansion of water in freezing elevates the surface of wet ground and draws up the post. The most secure way of setting posts is to place an underdrain near or under the line of the fence. A two inch pin inserted into a hole bored through the lower end of the post, so as to project a few inches each way, and then filling the hole with broken stone or gravel well rammed in; and making a compact ridge of earth against the line of posts, with a surface drain on each side, are both useful—but a drain is the most perfect.]

BARLEY AND OATS.—I notice an inquiry in the COUNTRY GENTLEMAN of April 23, "How to separate Barley from Oats for Seed." The method I have found more effectual than any Fanning Mill, is to make a tub of strong brine, then pour the grain slowly through a sieve into the brine, when the oats will float on top. Skim them off with a skimmer. Dry the barley in plaster before sowing, which I think gives it a better start, than sowing on plaster after the crop is sown. GEO. W. STEARNS. *Ontario Co., N. Y.*

TREATMENT OF COWS.—Wanted, from you or some of your veterinarian correspondents, information on the management of cows? What quality and quantity of feed is preferable before calving; and what immediately after? Should a cow drink her first mess of milk? What should be given to facilitate the after-birth? How soon should it be taken away? What after-treatment? What to prevent or cure milk fever? What symptom would justify drawing milk before calving. R. L. G. *Otsego co.*

FENCING.—I have thought much about your article on the cost of making and keeping fences. On a farm destitute of good fencing, would it do to fence off a *standing* pasture, and have no *division* fence? or is it necessary for the cleanliness of the land, to have it *all* pastured as its turn comes? I am only a young farmer, and do not know this last by experience. In the former case one could have as many fields or lots as he desired without the expense of cross fences.

Maryland.

STONE MILK PANS.—Inquiry is made concerning these milk pans. We use no other. In the summer they are set in the running water, within an inch or two of the top of the pans. All milk vessels require care to keep them sweet and clean; so do the stone pans. After skimming the milk, wash out the pans, scald them well, then set in the sun until needed, when all they require is to rinse them out with cold water.

BUCK-EYE.

THE CATTLE LAW.—Our legislature is now in session, and we stand in need of a more stringent law restraining animals from running at large upon the public highways. Will you be good enough to tell us through your next issue Co. GENT., whether your State law was in any way altered or modified at the last session of your legislature, and if so, what was the change? If it had no alteration, how is it liked? Is it the thing needed to secure the end? R. S. *Norfolk, Ct.* [There was no change made, we believe, in the Cattle Law of this State, at the last session of the legislature. While the law has not everywhere been enforced—so far as we are aware, its results have been good, and we have heard of no complaints under it of a sufficiently serious kind to attract attention, or to change our opinion of its being well adapted "to secure the end."]

NIGHT SOIL.—Is there any way in which I can secure a pit full of night soil for manure? I have one, and if you can tell me how it can be made fit to handle, you will oblige? A YOUNG SUBSCRIBER. [Charcoal dust, well dried muck, or some similar absorbent, may be worked in with it, in sufficient quantity to render the mixture nearly or quite inodorous. Burnt clay would be an excellent thing for the purpose, or coal ashes if at hand. The use of plaster will probably assist in deodorizing the compound. Before application it may be desirable to farther reduce its strength by composting with loam. It is the better way to add absorbents with plaster from time to time at the vault, in order to facilitate the handling of the contents when removed.]

AG. SOCIETY.—We wish to organize a Township Agricultural Society, and we don't know how to go about it. If you have a good form you will please have the kindness to mail me a copy? A. L. W. *Ohio.* [A brief constitution, declaring in separate articles the name and objects of the Society, what its officers shall be, and their duties, is all that is necessary to begin with. Let this be adopted in a meeting of those who favor the undertaking, the officers elected, and then the organization is ready at once for business. Should the State Law require any farther formalities to secure the legal existence of the society as a corporation, you may obtain the requisite information by addressing J. H. KLIPPART, Secretary of your State Board, Columbus, O.]

A LEAKY TEAT.—What is the remedy for a heifer of very great promise, that has a small hole in one side of her teat? J. E. M. *Portsmouth, R. I.* [It has been recommended to slightly enlarge the hole with a sharp knife, that in healing it may close entirely. It may be necessary to take a stitch in the wound thus created. The same result may be attained if instead of cutting with a knife, a small wire heated, or a sharpened stick of lunar caustic, is introduced into the hole—the burns from either of these causes having a tendency to bring together the sides of the orifice. It would probably be expedient to defer the operation until the heifer is dry, as the teat should not be handled until the wound is closed.]

WEEDER.—Do you know of a carrot weeding machine, one that will do its work well, and not costly? I found one advertised in your paper by R. H. Allen & Co., price $6, but on sending for one of them was answered that they were all sold, and no more likely to be made. I wish to find a machine that will save some of the expense of cultivating the carrot, and do not know to whom I could better apply than to yourselves. M. L. W. *Great Barrington, Mass.* [We think that Halsted's Cultivator, made by Haines & Pell, New-York, might suit our correspondent's wishes. See advertisement of the firm.]

POULTRY.—Can you inform me, through your paper, where I can procure the Silver Laced Bantam (Seabright,) and the pure White Dorking fowls? I should prefer getting them nearer than the East if possible. T. C. M. *Louisville, Ky.* [We cannot furnish the desired information. Inquiries for various kinds of Poultry have been lately very numerous, to many of which we have responded privately, to the above effect; if there are breeders who keep them for sale, they would save us much trouble and probably promote their own interests by advertising the fact to the public occasionally.]

SCOURS IN CALVES.—I would recommend S. (page 304 Co. GENT.,) to place a piece of chalk weighing from three to five pounds, where the calves can have convenient access to it. It is not only a cure, but a preventive of the scours in calves. I have not had a case of scours for more than three years, or since I used the chalk. Soon as the stomach becomes acid, they will lick the chalk and scrape it with their teeth. D. B. H. *Chester Co., Pa.*

CAKED BAG IN COWS.—I have been troubled of late with large, hard lumps in the udders of several cows, which stop the milk from coming down. Can any of your readers suggest a remedy? J. MILLER. *Rensselaer Co., N. Y.*

PRECOCIOUS MILKER.—I have a fine Holstein heifer apparently with calf, 3 years old this spring. Some ten days ago her bag suddenly enlarged, and became very sore, with garget in one teat, which I had carefully bathed and rubbed. It is all well again, but she continues to give a quart of milk twice a day. Did you ever know such a case, and is it right to milk her? She could not have slunk her calf, having been housed all the time. She is a fine looking animal with finest kind of mirrors. T. [We have known similar cases without injury arising therefrom.]

DRYING OFF COWS.—I wish to inquire of some of you subscribers, through THE CULTIVATOR, the quickest and best way to dry up a farrow cow? AN OLD SUBSCRIBER.

☞ The sale of the first half of the Babraham Short-Horn Herd of the late JONAS WEBB, took place April 15th, as advertised, and we give below the only account as yet received through our foreign files:

"Babraham achieved another triumph on Wednesday, when about half the late Mr. Jonas Webb's herd of Short-Horns were submitted to competition by Mr. Strafford and Mr. J. C. Jonas, and realized upwards of 4,000*l.* Several of the cows made 80, 90, and 100 guineas, and a few lots even more. The keenest competition of all was for Drawing-room Rose, a roan heifer, which fetched the heavy price of 225 guineas, the fortunate owner at that sum being Mr. Clarke Irving from Australia. The bulls scarcely did so well perhaps, as might have been expected, coming rather late in the day. Among those that realized high prices we may notice Beauty, now 10 years old, 100 guineas, and Red Rose 160 guineas. The part of the herd sold comprised sixty-two cows and heifers, and twenty bulls. The eighty-two animals brought 55*l.* 15*s.* each, or a sum total of 4,571*l.* 14*s.*, an amount which must be considered highly satisfactory. Many of the animals were bought for Germany, France, some for our own home counties; several will also find their way to South Australia and other distant colonies. The sale of the remainder of the herd is fixed for June 24, when no doubt an equally good account will be rendered."

☞ We are indebted to CHARLES VAN BENTHUYSEN, Esq., for the Legislative Manual for 1863. Together with the usual matter comprised in these convenient volumes, it gives the officers of the State Agricultural Society, and of no less than *fifty-three* County Agricultural Societies, and *ninety* Town and Union Societies and Farmer's Clubs. *One hundred and forty-four* organizations of this kind speaks pretty well for the activity and intelligence of the Farmers of the State of New-York.

OATS ON GREEN SWARD.—"In Scotland oats are generally the first crop on the inverted sward. The furrows are seldom over five inches, and often not over four inches deep." So states the Boston Cultivator. We are of the opinion that shallow plowing is necessary to the success of this crop on sward, especially in dry seasons. The sod then rots sooner, and settles more closely on the soil below. B.

BONES.—I have had some experience in treating ground bones with sulphuric acid. It is very troublesome, and I would not advise a farmer to undertake it, especially as it is a rather dangerous thing for one unaccustomed to it, to handle the acid. I think I should prefer to get them already "treated," though I cannot speak of their action on a crop yet. F. A. R. *Annapolis, Md.*

LETTER FROM JOHN JOHNSTON.

MESSRS. EDITORS—I notice there is much poor wheat around here. True, there are some fields that are good, but I fear there are more bad. I wrote you last autumn that I thought mine was ruined by the so-called Hessian fly; it is a total failure, and all owing to too early sowing. I sowed the 5th and 6th of September, and many sowed earlier. I knew better than to sow so early, as I had had failures before from early sowing. For a few years after I came here, I began sowing when my neighbors did, but as I then did the plowing and sowing myself I was often late in finishing, and I saw the wheat I sowed from the 18th till 25th of September was almost always the best crop. In 1831 I had quite a loss by this same fly, and then determined to get all my land ready and not commence sowing until the 20th September, or thereabout. I continued that course for about 20 years, and had almost no failures, with the exception of 1844. In September of 1843, as I intended going to the State Agricultural Show at Rochester, I sowed early in order to sow my my wheat before I went, and in consequence lost at least half my crop of 80 acres. Some time after the midge commenced to destroy the wheat crops along here, people got almost crazy to have their wheat early sown—some, indeed many, sowing in August, but I never began earlier than the 11th or 12th of September, and had no failures.

I have proof positive that if I had sown about the 20th of last September, I would have had fine looking wheat now. By some imperfection in the drill it missed dropping from one spout the whole length of the field for several times; these rows I had drilled over about the 20th or a little later. Now these *rows are as healthy looking wheat as any man can wish to see, while the other is worthless.* If farmers will take heed to what I have written, it will do many more good than the loss of 13 acres of wheat will harm me, although I fully expected 500 bushels when I sowed it. It is folly sowing so early. I never knew one day difference in coming in ear, or of ripening, *from that sowed on the 12th or 25th of Sept., if the condition of the land was equal*, and I have no doubt if farmers generally will make notes of their sowing and the ripening of their different fields, they will find what I say is correct.

We now have very fine weather. My barley looks very well, grass very good, clover ditto. I have not been from home to see the wheat, but my friends tell me much is bad. Mr. FOSTER, who has as good land for wheat as any in this county, says his is an entire failure. I presume he sowed early, as he keeps up his work generally.

I should add that those who sow the end of September and in October, should sow *more seed to the acre* than those sowing earlier.

Near Geneva, May 14, 1863. JOHN JOHNSTON.

HUNGARIAN GRASS FOR HORSES.

EDS. CO. GENT.—I see in the COUNTRY GENT. of April 30th a communication from Hampton Dodge, on the "Culture of the Hungarian Millet," in which he states that he has received a number of inquiries in relation to the Hungarian, and he makes your paper the medium of answering. I wish to say a few words about this, for the benefit of those who have never used the article.

A year ago I sowed about twelve acres, determined to try it myself, though warned by a large number of persons who had tried it. I cut the grass early when it was in blossom, or before the seed got ripe, as everybody said the seed was injurious to horses, and some said to cattle also. Last fall I had a span of mares and a span of mules. I fed them on this Hungarian all winter. This spring one of the mares died with the stiff complaint; the other is a little stiff. One of the mules I can use on the farm, though he is not right exactly, was a good deal out of fix, but is better now. The other can't be used at all; has the stiff complaint. I thought mules could eat it with perfect impunity. Now I am satisfied that the Hungarian is the cause of all this trouble. Everybody in this part of the country thinks that Hungarian won't do to feed to horses. It has been tried here thoroughly.

Aledo, Ill., May 6. H. S. SENTER.

SOILING CATTLE.

MESSRS. EDITORS—As there is much inquiry and something said in your paper about soiling, I will give some of my views and experiments in the practice. I cannot give weight and measure in the business, but by comparing results with others who practice the usual mode of farming, I think it quite as conclusive. The first farm I owned contained 40 acres of poor hard clay soil, and would not the first year afford feed for two cows and one horse, although 30 acres had been under good cultivation by Esq. SLIP-SHOD. Here I was with my little all invested in a *clay-bank*, and as the saying is, I had to fish or cut bait. Upon looking over the neighborhood, I perceived that to succeed in my undertaking I must have counsel, and at once decided to take the best agricultural paper I could get. The choice fell upon your own; which I have since read and re-read with both pleasure and profit. The first two or three years of my taking it, I looked and looked in vain for something on the treatment of clay soils, and was about to give up in despair, thinking nobody had a hard clay farm but myself; when all at once somebody let the cat out of the bag—clay farms were quite common in the world. About this time the subject of soiling was hinted at. I at once resolved to go into the practice. My farm cost me $845, leaving me no capital but my head and hands to work with. At this time I had made but little improvement, except to set out fruit trees and clean up generally by taking off old logs, stones, stumps, briers, &c., &c.

The practice of soiling soon convinced me that it was a very great improvement over my former and the usual mode of keeping stock, and in less than six years kept ten cows and a span of horses in good condition, and was offered $1,600 in gold for my farm. My main business has been keeping cows for making butter. Aside from this, I have raised some colts and calves. I have sought to know what are the best and most reliable crops to grow for soiling; have grown and used corn, clover, rye, oats, and roots, and now conclude to use corn, clover, and beets. Last season I kept five cows and two horses, pasturing three acres, and using less than an acre in corn and clover for cutting and feeding in the stable. The corn yielded at the rate of twenty-two tons per acre, and the clover three heavy clips. I consider green corn stalks most admirable feed for horses, cattle, and hogs; have fed it freely, and find it unequalled by any green crop for feed or yield. Clover comes next for summer use, but must be used with care; should be mixed with dry feed. I have fed green corn-stalks to all my stock,—even to work-horses—as I do dry hay, and perceive no evil effects; have observed that both cattle and horses have a great relish for salt when fed corn-stalks.

Soiling, with me, is no longer an experiment. I consider it the sheet anchor to good farming; a perfect regulator to the whole machinery; a complete specific for nearly every draw-back on good cultivation. Every farmer should practice it to a greater or less extent, whether his farm be large or small. It pays in different ways even at the present price for labor. You get manure to keep the clover from being thrown out by frost; it makes manure that will soon double the yield of the hay crop, so that it takes about one-third less labor to get a ton of hay; one-half is saved in land, and half in fences. It makes manure to spare for the garden, the orchard, the flower-beds, the lawn, the ornamental shrubbery, &c. QUINCY has truly said the manure crop is the most profitable one for the farmer. R. H. MACK. *Parma, Ohio, May 8, 1863.*

HUNGARIAN GRASS SEED.—
500 BUSHELS
new crop Hungarian Seed for sale by F. A. SCHWILL,
Seed Warehouse, 64 Sycamore-St.,
May 14—w3t. Cincinnati, O.

POTATOES.—
"GARNET CHILI,"
celebrated as the most productive, and the only sort entirely proof against rot; raised on dry sandy soil, for sale at $2 per barrel, delivered in any part of the city by LALOR BROTHERS,
May 14—w4t. 83 Genesee-St., Utica, N. Y.

C. RAOUX, 86 CEDAR STREET, NEW-YORK CITY,
COMMISSION MERCHANT
And Sole Agent in the United States for
Messrs. JOHN STEWART & SONS, Nurserymen, Dundee, Scotland.
Mr. D. DAUVESSE, Nurseryman, Orleans, France.
Mr. J. DE LANGE. Florist, Haarlem, Holland.
GOODS PURCHASED AND SOLD ON COMMISSION. CUSTOM HOUSE AND FORWARDING BUSINESS ATTENDED TO WITH ECONOMY AND DESPATCH.
REFERENCES.
Edward Rowe, Esq., President of the Grocers' Bank, N. Y. City.
Messrs. C. Dord & Co., Importers, New-York City.
Messrs. Edward Hart & Co., Merchants, New-York City.
Messrs. Frost & Co., Genesee Valley Nurseries, Rochester, N. Y.
George R. Mumma Esq., Dayton, Ohio.
Messrs. T. B. Yale & Co., Nurserymen, Rochester, N. Y.
S. B. Marshall, Esq., Prospect Hill Nursery, Massillon, Ohio.
J. E. Ilgenfritz, Esq., Nurseryman, Monroe, Michigan.
Messrs. Hoopes & Bro., Cherry Hill Nursery, Westchester, Penn.
T. J. Shallcross, Esq., Nurseryman, Locust Grove, Kent Co., Md.
May 7—w1y.

CENTRAL NEW-YORK
SEED DEPOT.
SEEDS.
SEEDS.
SEEDS.
We are now offering the largest assortment of FIELD, GARDEN and FLOWER SEEDS west of New-York.
We call particular attention to our importations of true Early Kent and Champion of England PEAS. Also the celebrated PEAVINE CLOVER and GARNET CHILI POTATOES.
LALOR BROTHERS,
April 23—w8t. 83 Genesee-St. and 7 Catharine-St., Utica, N. Y.

WHITE CLOVER SEED—Of superior quality, our own importation. R. H. ALLEN & CO.,
April 2—w8t. 189 & 191 Water-Street, New-York.

EARLY KENT PEAS
A choice lot for sale by W. E. P. BAYLIS, Druggist,
(Successor to Webb & Walker,)
Feb. 5—wtf. 108 Genesee St., Utica, N. Y.

CRAIG MICROSCOPE.

This is the best and cheapest Microscope in the world for general use. It requires no focal adjustment, magnifies about 100 diameters, or 10,000 times, and is so simple that a child can use it. It will be sent by mail, postage paid, on the receipt of $2.25, or with six beautiful mounted objects for $3, or with twenty-four objects for $5. Address
HENRY CRAIG,
180 Center Street, New-York.
A liberal discount to the trade.
Retailed in Albany by GEORGE F. UDELL, 536 Broadway, and by BENJAMIN MARSH, 34 State-Street. In Troy by YOUNG & BENSON. April 2—w&m1yr.

Just Published, one vol. 12 mo.—$1.50.
MILCH COWS AND DAIRY FARMING; Comprising the Breeds, Breeding, and Management in Health and Disease, of Dairy and other Stock; the selection of Milch Cows, with a full explanation of Guenon's Method, the Culture of Forage Plants, and the production of Milk, Butter and Cheese; embodying the most recent improvements, and adapted to Farming in the United States and British Provinces. With a Treatise upon the Dairy Husbandry of Holland; to which is added Horsfall's System of Dairy Management. By CHARLES L. FLINT, Secretary of the Massachusetts Board of Agriculture; Author of "A Treatise on Grasses and Forage Plants," &c. Liberally Illustrated.
The above valuable work—the best, we have no hesitation in saying yet issued upon the subject—is for sale at the office of this paper.
Albany, Jan. 1—w&mtf. L. TUCKER & SON

SWIFT'S LAWN MOWING MACHINES.—
ALLEN'S PATENT CYLINDER PLOWS.
Prices and Circulars furnished on application by
R. H. ALLEN & CO.,
April 16—w8t. 189 & 191 Water-Street, New-York.

IMPROVED SHORT-HORNS FOR SALE.—
The subscriber, wishing to reduce materially the number of his herd, offers for sale at low prices, BULLS, BULL CALVES, COWS and HEIFERS, all having
GOOD PEDIGREES.
A Catalogue will be sent, with prices marked, to any one desirous of purchasing.
Apply at Ellerslie Farm, one mile south of Rhinebeck Station, Hudson River railroad, or by letter addressed to
May 14—w&mtf. WILLIAM KELLY, Rhinebeck, N. Y.

IMPORTANT TO WOOL GROWERS.—
LALOR'S
SHEEP DIPPING COMPOSITION
adds over one pound of wool to each fleece, besides wonderfully improving the condition of the sheep, at a cost of only about three cents a head. No farmer should let this season pass without using it. Particulars sent free on application to LALOR BROTHERS.
83 Genesee-St., Utica, N. Y.

Put up in 3 pound Boxes (enough for 25 sheep) at						$1.50
do.	6	do.	do.	50	do.	2.00
do.	12	do.	do.	100	do.	3.00
do.	24	do.	do.	200	do.	5.00

May 14—w13t.

ITALIAN QUEEN BEES,
For sale by L. L. LANGSTROTH & SON.
May 7—w13t. Oxford, Butler County, Ohio.

LARGE SALE OF THOROUGH-BRED
AND
TROTTING STOCK,
June 17th, 1863.
As I propose greatly to reduce my breeding establishment of Blood and Trotting Horses, I will on Wednesday, the 17th day June next, offer at Public Auction, at WOODBURN FARM, about ONE HUNDRED AND TWENTY-FIVE head of Thorough-Bred and Trotting Horse Stock, consisting of BROOD MARES, COLTS and FILLIES, of various ages. Most of this stock having been selected by myself, with considerable care, many of them being as finely bred as any stock can be, those who desire to purchase either Blood or Trotting Stock, will do well to attend. Catalogues furnished three weeks previous to day of sale, upon application to Mr. D. Swigert, or
R. AITCHESON ALEXANDER,
April 23—w8t. Spring Station, Woodford Co., Ky.

PREMIUM CHESTER COUNTY WHITES.—
THOMAS WOOD,
Penningtonville, Chester Co., Pa.,
Continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. April 16—w&m1y.

PURE BRED NORTH DEVON STOCK
COWS, HEIFERS AND BULLS.
Also GREY or SPECKLED DORKING FOWLS, bred with great care. For sale by R. H. VAN RENSSELAER,
April 9—w&mtf. Morris, Otsego Co., N. Y.

SHORT-HORNS AND ALDERNEYS—
Descended from imported stock, for sale by
DR. HERMAN WENDELL,
March 19—w1yr. Hazelwood, Albany, N. Y.

THOROUGH-BRED DEVONS FOR SALE.—
THE DEVON BULL "EMPIRE."
Also several other Bulls, and a number of Heifers. Address
JOSEPH HILTON, New Scotland, Albany Co., N. Y
March 6—wtf.

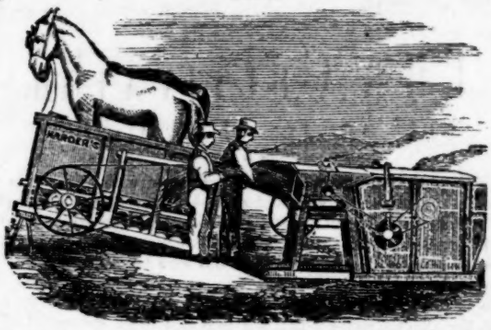
THOROUGH-BRED DEVONS.—
BULLS AND HEIFERS
from imported stock. For sale by EDWARD G. FAILE,
Feb. 25—w1yr.* West Farms, Westchester Co., N. Y

E. N. BISSELL, SHOREHAM, VT.,
BREEDER OF
SPANISH MERINO SHEEP,
Yorkshire & Chester Co. White Hogs,
FANCY POULTRY, PIGEONS, RABBITS, &c.
SEND FOR A CIRCULAR. Feb. 26—w14tm3t.

FOR SALE.—THOROUGH-BRED
ROADSTER AND TROTTING HORSES
of most approved and fashionable pedigrees, embracing stallions, mares and geldings, from six months to four years old.
E. N. WILLCOX,
Dec. 11—wtf. Whitewood, Detroit P. O., Mich.

FIRST PREMIUM.

BUY THE BEST.



THE RAILWAY HORSE POWER,

which took the FIRST PREMIUM at the New-York State Fair, for 1862, and it also has at every State and County Fair at which the proprietors have exhibited it in competition with others! This, we believe, cannot be said of any other Power exhibited at an equal number of Fairs.

Combined Threshers & Cleaners,

THRESHERS, SEPARATORS, WOOD SAWS &c.

All of the best in market.

Some of the advantages of these Powers are low elevation, slow travel of team, and consequent ease of team.

THE THRESHER AND CLEANER

Runs easy, separates the grain perfectly clean from the straw, cleans quite equal to the best of Fanning Mills, leaving the grain fit for mill or market.

☞ For price and description send for Circulars, and satisfy your self before purchasing. Address R. & M. HARDER.
May 7—weow6tmlt. Cobleskill, Schoharie Co., N. Y.

GRAPE CULTURE AND WINE MAKING—A Practical Treatise on the Garden and Vineyard Culture of the Vine, with directions for the manufacture of Domestic Wine, to which is added also a selection of Examples of American Vineyard Practice, and a carefully prepared description of the celebrated Thomery system of Grape Culture. The book is profusely illustrated with carefully executed designs verified by direct practice. By John Phin. Price $1. For sale by LUTHER TUCKER & SON,
Albany, N. Y.

MANUAL OF AGRICULTURE,

Prepared under the direction and published with the sanction of the

MASSACHUSETTS STATE BOARD OF AGRICULTURE.

An Elementary Treatise, comprising the Principles and Practice of Agriculture, including the Composition of Soils, the Atmosphere, Water, Manures, &c., the Preparation of Lands, the Culture of Special Crops, the Principles of Rotation, the Diseases and Enemies of Growing Plants, the Choice and Management of Farm Stock, and the General Economy of the Farm and the Household.

For the Use of Schools, Families, and Farmers.

BY GEORGE B. EMERSON.

For many years connected with the Massachusetts Board of Education and author of a valuable Report on the Trees and Shrubs of Massachusetts—and

CHARLES L. FLINT,

Secretary of the Massachusets State Board of Agriculture, author of a Treatise on Milch Cows and Dairy Farming, Grasses, and Forage Plants, &c.

ILLUSTRATED BY MANY ENGRAVINGS.

This work supplies a want long and deeply felt in our public schools, and the fidelity, care and practical good sense with which it has been prepared cannot fail to commend it to general favor. The Board of Agriculture of Massachusetts, after a most careful and thorough revision, have given to this Manual the following full and hearty endorsement:

Resolved—That this Board approve of the Manual of Agriculture submitted by its authors, Messrs. Geo. B. Emerson and Charles L. Flint, and recommend its publication by these gentleman, as a work well adapted for use in the schools of Massachusetts.

Price 75 cents. Copies sent by mail on receipt of the price.

Every farmer and every man who cultivates a garden should have this book. For sale by L. TUCKER & SON.
Albany N. Y.,

THE SUBSCRIBER WOULD LIKE TO CONTRACT with any party or parties for the Manufacture and Sale in the State of New-York of BULLARD'S IMPROVED PATENT HAY SPREADER AND TURNER, patented May 31, 1861.
SAMUEL HARRINGTON.
April 16—w2tmlt. New-Braintree, Mass.

FARM WANTED.—

A GOOD GRAIN FARM,

of 100 to 150 acres, about 20 acres wood; good buildings, plenty of fruit, good soil, easy of cultivation, and well watered, near the central lakes or Genesee Valley, preferred. Stock will be purchased if desired at a fair value. Address, stating lowest price, terms and description, to A. M. EDALL,
May 14—w3t. Newtown, Queens Co., L. I.

A BEAUTIFUL MICROSCOPE. Magnifying 500 times, for 28 cents, (coin preferred.) FIVE, of different powers for $1. SENT FREE BY MAIL. Address
May 7—w13t. F. S. BOWEN, Box 230, Boston, Mass.

RIGHTS FOR SCHOOLEY'S PRESERVATORY, (in New-York and Pennsylvania,) for sale by J. L. ALBERGER, Buffalo, N. Y. Send for pamphlet. Nov. 3—wtf.

BOARDMAN & GRAYS'

PATENT IMPROVED

INSULATED IRON RIM AND FRAME

PIANO FORTES.

MANUFACTURED BY

WILLIAM McCAMMON,

(Successor to BOARDMAN, GRAY & CO.,)

Albany, N. Y.

☞ Send for illustrated price list. Nov. 27—w&mtf.

NEW-YORK STATE TILE WORKS

NEAR THE CORNER OF

LARK & LYDIUS-STREETS, ALBANY, N. Y.

WM. M. BENDER, Proprietor.

GEO. JACKSON, Superintendent.

The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

N. B.—Drainage to any extent and at any place done by contract and tile furnished for the same.

Also DRAINING TILE MACHINES for sale of the latest improved Patterns. For further particulars address as above. Ap. 9—w&m.

FIRST PREMIUMS AWARDED TO

WOODRUFF'S PATENT

PORTABLE BAROMETERS,

at the State Fairs of Vermont, Michigan, Ohio, Indiana, New-Jersey, and Connecticut, in 1862, and previously by the New-York State and United States Fairs.

THE BEST, CHEAPEST, SIMPLEST

AND ONLY

PERFECTLY PORTABLE BAROMETER.

Sent by Express anywhere. Address,
LUTHER TUCKER & SON Albany, N. Y

Agricultural Books for Sale at this Office.

CONTENTS OF THIS NUMBER.

THE FARM.

Experiments in Top-Dressing Grass Lands,..... 169
Maxims in Relation to the Use of Plaster, by JAS. FOUNTAIN,.... 172
Cost of Fencing, &c., by a MARYLAND FARMER,..... 173
Horse Manure, Plaster, &c., by LEVI BARTLETT,..... 174
High Manuring and Rotation, by JAMES CHILDS,..... 174
On Harrowing Clay Lands, by JOHN JOHNSTON,..... 175
Couch or Quack Grass and Potatoes, by A. VAN VOAST,..... 175
Principles Involved in the Application of Artificial Manures, by DR. E. PUGH,..... 176
Hedge Training in Missouri, by SAMUEL AVERY,..... 177
Coal Tar for Seed Corn, by P. B. TYLER,..... 177
Wayside Notes—A Word about Drainage—A Little Talk about Sheep—Agricultural Colleges, by JUDGE FRENCH,..... 178
Culture of Hungarian Millet, by HAMPTON DODGE,..... 179
The Culture of the Hop, by WM. RHODES,..... 181
Planting Potatoes, by P. P. B.,..... 182
Coal Tar for Seed Corn and other Purposes, by T. V. P.,..... 182
Eastern Duchess, by N. REED,..... 183
A Wheel Corn Marker, by S. H. W.,..... 184
Hungarian Hay for Sheep, by W MARKS,..... 184
Some Figures in French Agriculture,..... 186
Culture of Hops, by D. B. SHAPLEY,..... 186
Manures, by H. P. B.,..... 188
Oregon and Her Agriculture,..... 189
Draining Level Lands, by ASA HUBBARD,..... 190
Water for Stock and Family Use, by H. V. WELTON,..... 190
Curing Clover Hay, by C. T. ALVORD,..... 191
Letter from John Johnston,..... 197
NOTES FOR THE MONTH.—The Hamburgh Exhibition—Sales of Improved Stock—A Rare Instance of Fecundity—Californian Agriculture—Mangolds and Turnips,..... 192
Farm Machinery—An Industrious Farmer—Agricultural Colleges—Strawberries by Mail to Tennessee,..... 193
Death of Mr. Bixby—Death of Dr. Darlington—Spring Shows of Breeding Stock—Manual of Flax Culture—Hadley Farmers' Club—Cheese Factories,..... 194
INQUIRIES AND ANSWERS—Scours in Colts—Carrots—Squash Bug—Sorghum—Churns—Farm Bells—Cellars—Osier Willow—Frost—Barley and Oats—Calving Cows—Fencing—Stone Milk Pans,..... 195
The Cattle Law—Night Soil—Ag. Society—Leaky Teat—Weeder—Poultry—Scours in Calves—Caked Bag—Precocious Milker—Drying Cows,..... 196

THE GRAZIER AND BREEDER.

Geddes' Wool Press,..... 170
Breeding and Management of Sheep, by N. P. ATKINSON,..... 171
Confining Sheep in Winter, by C. A. J.,..... 175
Cough in Sheep, by JOSEPH KIRBY,..... 182
Value of Hungarian Millet, by HAMPTON DODGE,..... 182
A Prolific Heifer, by J. E. MORGAN,..... 182
Cure for Scratches in Horses,..... 182
Lice on Calves—Scours in Calves,..... 185
Scours in Calves, by S. EDWARDS TODD,..... 188
Sale of the Babraham Short-Horns,..... 196
Hungarian Grass for Horses, by H. S. SENTER,..... 197
Soiling Cattle, by R. H. MACK,..... 197

HORTICULTURAL DEPARTMENT.

Fruit Room, Description of, by L.,..... 172
Prevention of the Curculio, by L.,..... 172
Culture of Salsify, or Vegetable Oyster,..... 183
Dwarf Cherries,..... 184
To Destroy Caterpillars,..... 184
Bidens Atrosanguinea,..... 185
Grapes for Every Family,..... 187
Turf for Gardens,..... 187
To Destroy Apple Tree Worms, by J. T. ADDAMS,..... 189
Experience in Orchard Culture, by P. SUTTON,..... 190
Bugs on Vines, by BUCKEYE,..... 190

THE DAIRY DEPARTMENT.

What Should be the Average of Cheese per Cow, by X. A. WILLARD, 173
Poison Cheese, by X. A. WILLARD,..... 185
Kicking Cows, by LOCKPORT,..... 190

DOMESTIC ECONOMY.

Cure for Rheumatism, by JACOB FRITZ,..... 177
Recipe for Pickles—Recipe for Corn Bread,..... 184
Remedy against Moths,..... 185
Rats Eating Harness, by S. L. W.,..... 188

THE POULTRY YARD.

Over Feeding and Care of Hens, by BROOKS,..... 179
Cochin Creeper Fowls, by C. N. BEMENT,..... 180
Hens Plucking Feathers, by BUCKEYE,..... 181

ILLUSTRATIONS.

Geddes' Wool Press,..... 170 | Dwarf Cherries,..... 184
Cochin Creeper Fowls,..... 180 | Bidens Atrosanguinea,..... 185

THE FARMER'S LIBRARY

We know of no works which afford so much Practical Information on the subject of American Agriculture, which can be procured for double the cost, as the Third Series of "THE CULTIVATOR," the 10th vol. of which is now completed. The price of the Ten volumes, handsomely bound in muslin, is 75 cents each at this office, or $1.00 each sent by mail, post paid. Either volume from 1 to 10, can be had separately at the same price. The Ten volumes will be sent per Express to any part of the country, on receipt of $7 50.

TERMS OF ADVERTISING.

The charge for Advertising in THE COUNTRY GENTLEMAN is ONE DOLLAR for Eight Lines or less of space in agate type, for each insertion, and Twelve and a Half Cents per line for any larger space, each insertion. At these rates it is believed that this Journal affords the CHEAPEST AND BEST MEDIUM of reaching the Agricultural and Horticultural community throughout the United States.

Advertisements are also inserted in THE CULTIVATOR, monthly, at the same price for each insertion, as in the COUNTRY GENTLEMAN.

Whatever other Agricultural Journals the Farmer may take, the Cheapness and Value o The Cultivator render it indispensable.

THE CULTIVATOR.

FOR 1863.

This Periodical enters upon its thirtieth year, with 1863. It is now made up from the COUNTRY GENTLEMAN—those articles being particularly selected which shall present in each number the greatest variety of brief practical hints and suggestions, calculated to be of the widest interest and most general utility. It has long been the belief of the Editors that what one farmer has done another can do—hence their aim is to transcribe, either themselves or through their correspondents, the exact systems which the best and most successful of our farmers are now practically following, by which they have made money and enriched their soils—to explain the modus operandi, and set others in the way of following the example. We may assert without exaggeration, that it contains scarcely a page, from January to December, on which may not be found some Fact from the Actual Practice of the writer, of far greater real value to the careful reader than the year's subscription.

THE CULTIVATOR has always been FAR LARGER—containing from one to two-thirds more matter—than any contemporary published at the same price. While other papers have advanced their rates, or have been discontinued, we propose to CONTINUE THE CULTIVATOR FOR 1863 ON THE SAME TERMS as heretofore, and it is now not only, as it has always been, THE CHEAPEST, but also, we believe, THE ONLY Agricultural paper published in the United States whose single copy price is FIFTY CENTS A YEAR.

THE CULTIVATOR

Is published monthly, all subscriptions beginning with the January number, and forms an annual volume of nearly 400 large 8vo. pages

Single Copies 50 Cents per Annum,

Payment strictly in advance. Clubs are presented with the ANNUAL REGISTER OF RURAL AFFAIRS, containing 144 Pages, and 150 Engravings, and thus obtain

528 Pages Reading Matter, and more than 200 Engravings, for Fifty Cents

WHAT EVERY BODY WANTS!!

We have secured what we consider the BEST WAR MAP of the whole Fifteen Southern and Border States, colored and engraved on steel, covering a surface o about FIFTEEN SQUARE FEET, revised and corrected to the latest dates, which we are enabled to CLUB WITH THE CULTIVATOR AND REGISTER on the very favorable terms given below. Such a Map, previous to the late advances in the art of printing, could not have been purchased for less than TEN DOLLARS; but under the following proposition, our subscribers will receive it at a cost of

ONLY FIFTEEN CENTS!!

In other words, Ten Copies of THE CULTIVATOR and REGISTER, with TEN MAPS, (and one of each free to the sender of the Club) will be sent for $6.50, and the following will be the

TERMS FOR 1863.

Single Copy of THE CULTIVATOR for 1863,.....	$0.50
do. do. and ANNUAL REGISTER,.....	0.75
do. do. do. and WAR MAP,	1.00
Ten Copies of THE CULTIVATOR, and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS,.....	5.00
Ten Copies of THE CULTIVATOR and REGISTER, with ten copies of the War Map, WITH ONE COPY OF EACH OF THE THREE FREE TO THE SENDER OF THE CLUB,.....	6.50

Or, if only a part of the Club desire to receive the Map, each one wishing it may make his payment 65 cents, instead of 50 cents, and we will send them in any required number, BUT ONLY TO THOSE WHO ARE SUBSCRIBERS, at this rate.

THE COUNTRY GENTLEMAN.

THE COUNTRY GENTLEMAN contains sixteen large pages every week, and forms two volumes per year of 416 pages each—subscription $2 per year, or $2.50 if not paid strictly in advance. The volumes begin with January and July.

FIVE DOLLARS will pay for Six Copies of THE CULTIVATOR and One Copy of the COUNTRY GENTLEMAN for 1863, with a copy of the ANNUAL REGISTER to each of the Seven Subscribers. SIX DOLLARS will also entitle each of the Seven to a copy of the WAR MAP.

Specimen copies and Prospectuses of the COUNTRY GENTLEMAN and the CULTIVATOR will be sent to all who desire them, and Postmasters, and all persons interested in Rural pursuits, are earnestly invited to act as Agents.

Address letters of inquiry, or orders accompanied with the cash, to

LUTHER TUCKER & SON, Albany, N. Y.